

Area Development Planning Bulletin

Base Comprehensive Planning

Prepared for: United States Air Force Office of The Civil Engineer

Prepared by:	Noritake Associates	605 Prince Street	
		Alexandria, Virginia	22314
	EDAW Associates	601 Prince Street	
		Alexandria, Virginia	22314

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Chapter 1:

Introduction

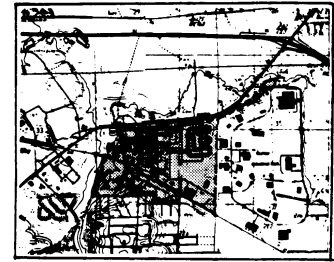
Chapter 1: Introduction

A. Purpose of the Document

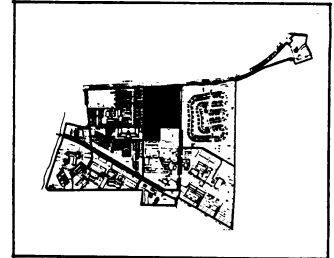
- 1.1 The purpose of this document is to provide guidance in preparing an Area Development Plan (ADP) for an Air Force installation. The Area Development Plan examines a specific area within an installation which is unified by its function or architectural character, such as a family housing area, administrative area, etc. (Figure 1-1). Since the Base Comprehensive Plan (BCP) provides broad planning direction at the land use level, the ADP provides an important link between the overall Base Comprehensive Planning documents and site planning for individual construction projects. In previous BCP bulletins, the ADP has been referred to as a "small area" or "sub-area" plan.
- 1.2 The Long Range Facilities Development Plan (LRFDP), which is part of a BCP lists future military construction projects for an installation within a given time period (typically five years). When preparing an Area Development Plan, the planner studies the relationship of these projects to their prospective sites and surrounding land uses. By analyzing the natural, built and socio-cultural factors, affecting development of a specific area, Area Development Planning provides a detailed framework for decisions on implementation of proposals contained within the Long Range Facilities Development Plan for specific functional areas of the base.

B. How To Use the Bulletin

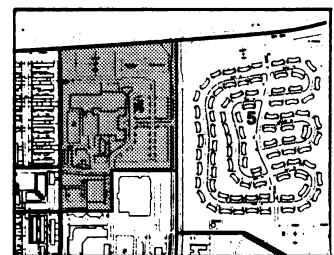
- 1.3 Reference Document
 - a. This document is one of a series of bulletins prepared by the Air Force describing the comprehensive planning process. It supplements information contained in these bulletins which describes facility planning and development at the Comprehensive Planning scale. It is meant to serve as a reference document for the base planner and others involved in the preparation of an ADP.



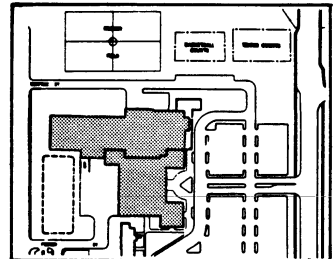
region



installation



area



site

Figure 1.1 Scales of Facility Planning

b. The bulletin is organized as follows:

- Chapter 1 - Introduction: The first Chapter defines the ADP and describes the intent of the Area Development Planning process. It also explains the role of the ADP in the overall Comprehensive Planning process.
- Chapter 2. Area Development Planning Process: This Chapter describes the generic planning process used when preparing an ADP. Data sources, analysis techniques and alternative plan evaluation methods are discussed as they might be used, regardless of the type of area being planned.
- Chapter 3 - Area Descriptions and Criteria: This Chapter discusses planning issues and principles unique to each area for seven types of areas typically found on installations (e.g., family housing, community center, etc.). A prototypical example of an ADP is provided as a case study for each area. It should be noted that these seven areas do not include all land use areas on an Installation, but are typical of the most common ones present at a given Air Force installation.
- Appendices: The appendices include a sample ADP, excerpts from USAF Construction Technical Letter 90-1, and a list of references used in preparation of the manual.

1.4 Intended Users

- a. This bulletin is a guide for developing planning techniques that will improve the visual appearance and functional operations of an installation's Sub-Areas. The bulletin is for use by all persons responsible for, or interested in, facility planning efforts at any scale. This includes those responsible for finding or securing funding for construction projects from multiple funding sources. The bulletin is specifically oriented to the individual or group of individuals charged with preparation of an ADP at an installation (e.g. the Installation planning staff).
- b. The bulletin is also intended for private-sector design firms who are hired to prepare an ADP or to provide professional architectural, site planning and engineering services for facility development at an installation. Information contained in the bulletin will help improve communications between the military and these civilian contractors by explaining the nature of the ADP and its relationship to the overall Comprehensive Planning process.

C. What is Area Development Planning?

1.5 Scale and Level of Detail

- a. An Area Development Plan addresses facility planning Issues at the small area or sub-area level. This is between the Comprehensive Planning (base-wide) and Site Planning (individual building) scales. A typical scale of the ADP might be 1 inch = 100 feet, although the scale can vary depending on the size of the area being planned. The intent of the ADP is to plan an area in more detail than normally is done during comprehensive planning. This often results in refinements of siting decisions and a clearer understanding of the way in which facilities relate to each other and their surrounding environment. The ADP will draw from overall BCP policies when addressing facility siting at the more detailed level.
- b. Typically, an ADP will contain some site planning guidance for the spaces between buildings. it will also address the pedestrian and vehicular circulation systems among facilities with common functions. However, the plan is an area-wide analysis and does not provide definitive site plans for individual buildings. This latter scale of analysis is performed during preparation of military construction (MILCON) or other funding documentation for each programmed project.
- c. An ADP will group facilities with similar uses, such as a dormitory complex, or depict a portion of the base which contains different functions that have a common relationship. In many cases, an entire base will have been already divided into functional areas during the Comprehensive Planning Process, and ADPs will be prepared or are planned in preparation for some (or all) of these areas. Figure 1.2 shows an installation which is divided into land use areas for subsequent planning purposes. it should be noted that areas for which ADPs are prepared can cross land use boundaries to include multiple uses. If the Intent is to study relationships between and among various functions.

1.6 Plan Contents

- a. The ADP document contains text and graphics which describe and illustrate facility planning for the area. The document by nature should rely on graphics as the main means of communicating the design intent and planning principles suitable for the area. The final plan graphic

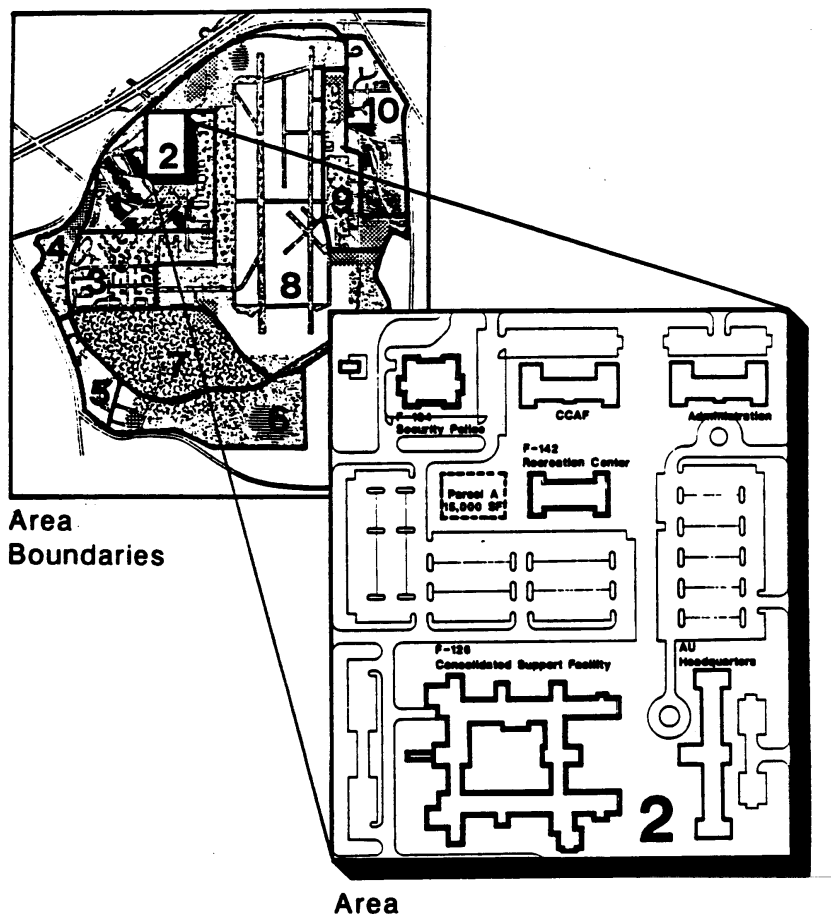


Figure 1.2 Sub-Areas within an Installation

contained in the document (Figure 1.3) usually contains the following elements (described in more detail in Section

- Budding "envelopes" or footprints
- Areas reserved for future development
- Building setbacks
- Parking
- Streets and roads
- Pedestrian plazas and landscaped areas
- Landscape plantings
- Open space areas
- Play areas or other outdoor amenities

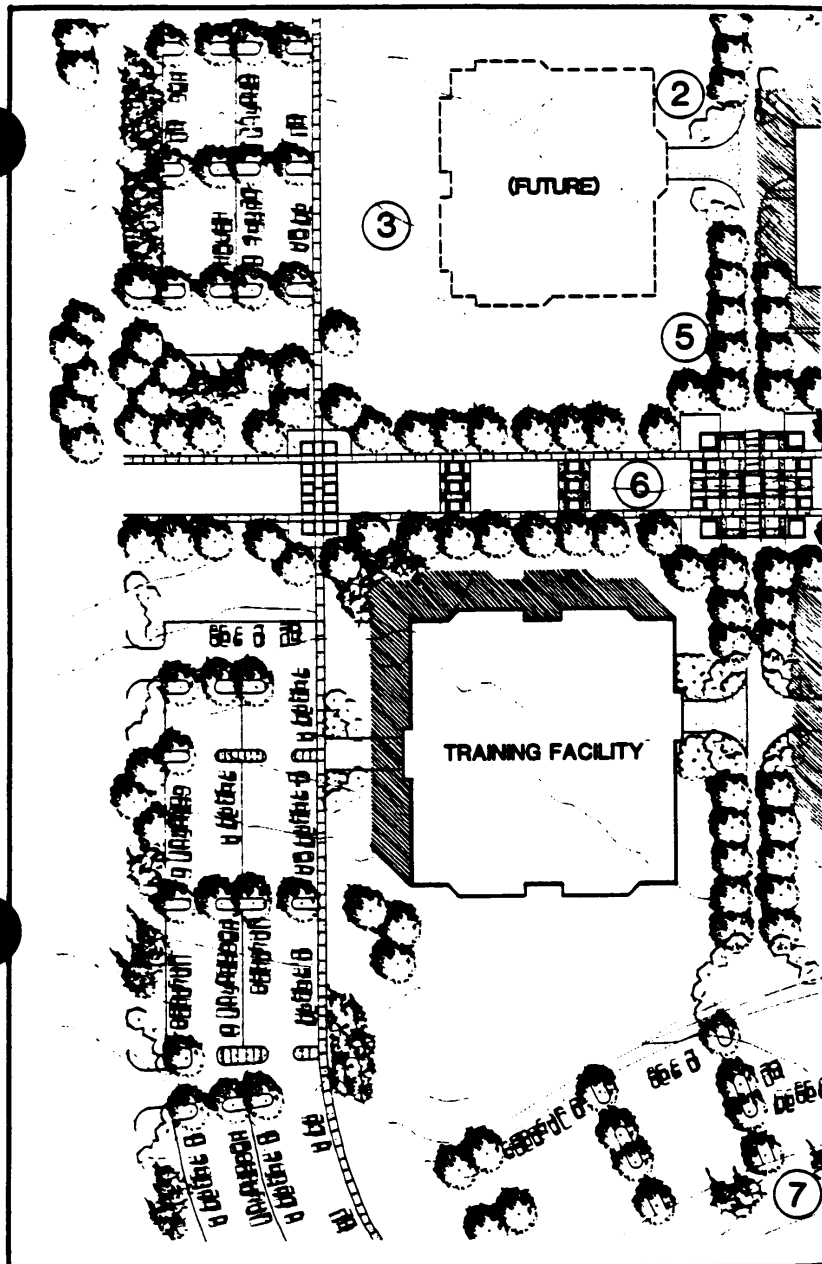


Figure 13 Final Plan Detail

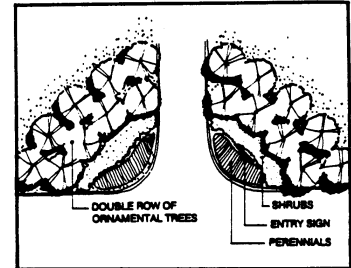


Figure 14 Landscape Detail

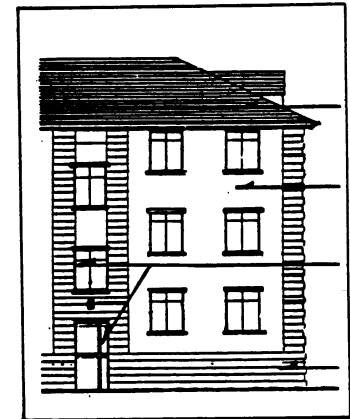


Figure 15 Architectural Detail

- b. In addition to analysis drawings and plans, the document typically will include some details or sketches to illustrate important features of the plan, such as architectural character, special landscape features, recommended solutions to circulation problems, etc. (Figures 1A and 1.5). The document also will indicate construction phasing and development priorities which correlate with the facility programming contained in the UP and/or MILCON or other project funding documentation for the installation. The specific contents of an ADP are described in more detail in Section 2.

D. Why is an Area Development Plan Prepared?

1.7 Urban Design Issues

- a. Preparation of an ADP allows the unique opportunity to incorporate urban design principles into the facility planning process. This is one of the most common reasons for and major benefits of preparing an ADP. No other part of the BCP or military construction process allows the planner an opportunity to look at a portion of the base from an urban design point-of-view.
- b. In the preparation of an ADP, consideration should be given to scale, mass, form, materials, architectural style, and landscape features so that the total environment of the area is designed as a whole (see sample ADP in appendices). On most installations, areas will be different from each other in terms of scale, mass, style, etc. The ADP addresses these design issues to provide specific design and planning guidance appropriate to the area. The ultimate goal is to create a better place to live and work, thereby improving the operating efficiency and quality of life for base residents and employees.

1.8 Other Reasons

- a. There are other reasons for preparing an ADP. These include:
 - a change in mission for a specific portion or group of facilities within the base;
 - the need to focus on a specific area where a number of projects are programmed and/or which will undergo considerable change as a result of the UP; the need to resolve specific problems within a portion of the base, such as circulation conflicts, a lack of outdoor pedestrian amenities, functional problems, etc.;
 - the need to prepare a plan for a portion of the base prior to the completion of the BCP, If the comprehensive plan has not been Initiated or completed;
 - the need to address changes within an area because of downsizing at the Installation;
 - the need to meet facility planning requirements for project funding in accordance with the Requirements and Management Plan (RAMP). (Specifications as stated in appendix A: USAF/LEED Construction Technical Letter 90-1.)

- b. Other reasons may be given which are not listed. It is important to realize that an ADP is a flexible tool for more careful examination of a certain portion of the base for a variety of reasons. This tool is useful to the overall planning process since it allows the planner to resolve specific problems which are not addressed in detail in the comprehensive Planning Process.
- c. It also important to note that ADPs may vary in content because they are prepared for different purposes. This bulletin provides a guide for preparing an ADP, but each individual document may vary to emphasize solutions to particular problems.

E. The Area Development Plan within the Base Comprehensive Planning Process

1.9 Long Range Facility Planning

- a. The ADP is part of the Long-range Facility Planning Process within the BCR As stated in the LRFDP Planning Bulletin:

"the LRFDP directs the siting and development of all new facilities at the Installation to realize fully the recommendations of the Land Use Plan, Transportation Plan, Landscape Development Plan, Installation Design Guide, Utilities Systems Plan, and other component plans that direct or Influence the location and design of facilities."

The ADP falls within this Long Range Facility Development Planning process since It allows the planner to command detail more specifically facility siting.

- b. Figure 1.6 shows the sixteen component plans, including the LRFDP, which currently comprise the overall BCP process. The flow diagram shown in Figure 1.7 illustrates the individual steps of the LRFDP and where small area plans fit within this process. The implementation process which currently is required is described in detail in Chapter 2

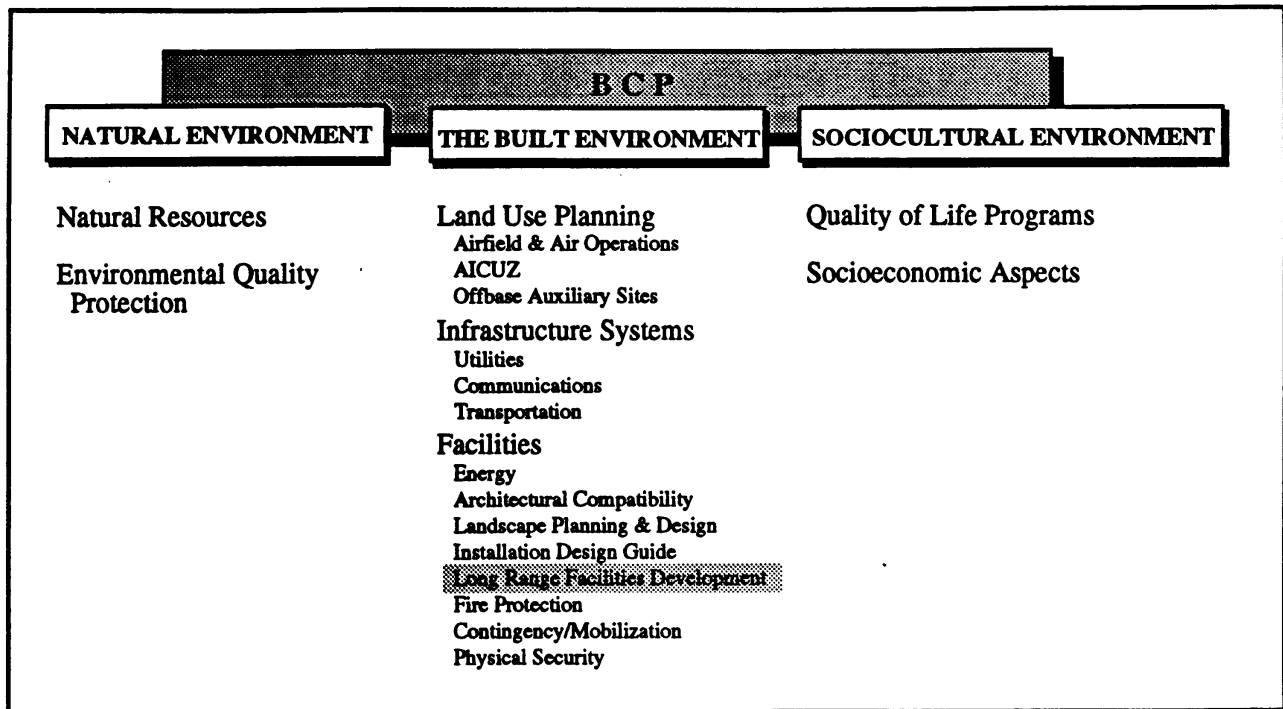


Figure 1.6 BCP Component Plans

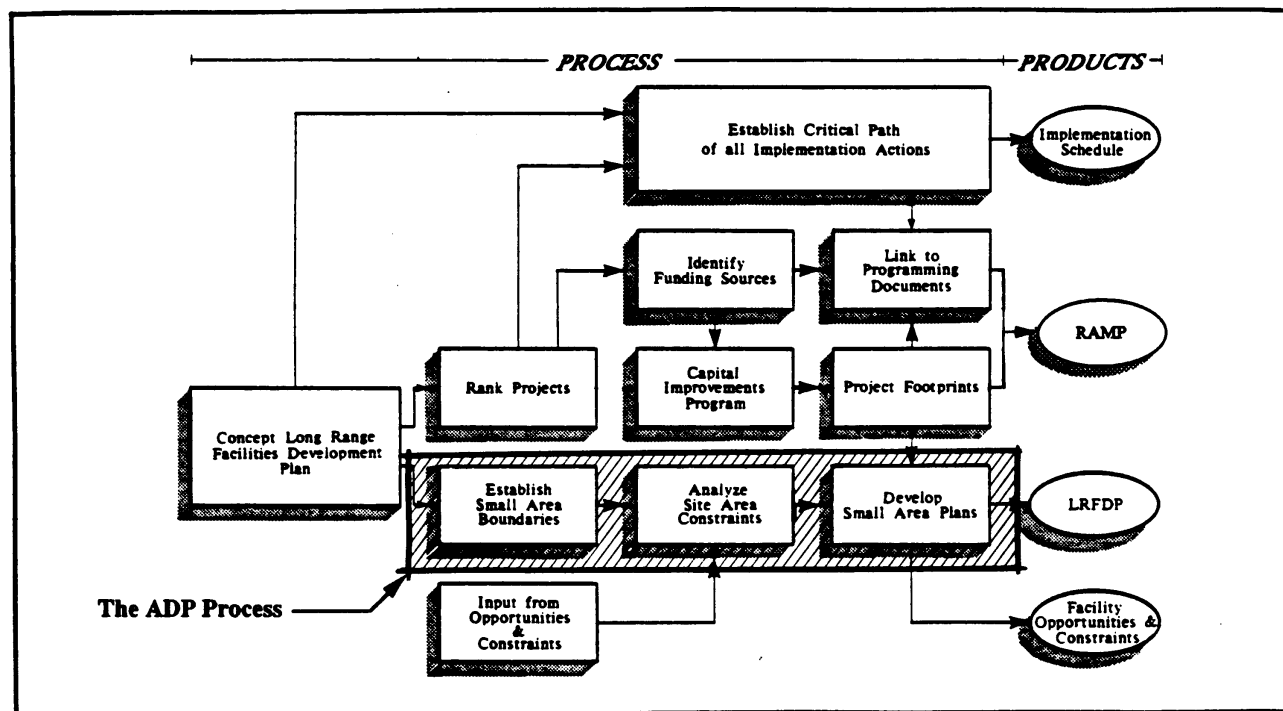


Figure 1.7 The ADP within the Long Range Facility Planning Process

1.10 Other Component Plans

a. Several of the other component plans dealing with the built environment have particular relevance to the ADP. These include:

- Land Use
- Transportation
- Utilities
- Architectural Compatibility
- Landscape Development

Since the ADP typically addresses these same subjects at a more detailed scale, the planner should refer to these component plans to understand the basewide goals, objectives and policies that may affect development of the small area. In this way, the overall Intent for base development will be implemented to the degree possible through the Area Development Planning Process. In a similar fashion, the planner would refer to an ADP prepared for a specific area when updating the BCP to ensure the recommendations made at the more specific level are incorporated into the comprehensive plan or the installation.

Chapter 2:

Area Development Planning Process

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Area Development Planning Process

A. Introduction

2.1 Planning Process Overview

This Chapter provides guidance for developing a successful Area Development Plan (ADP). It describes the process for making planning decisions at the area level. As described in Chapter 1, general facility programs and siting decisions typically are defined by the Long Range Facilities Development Plan, if available. Area Development Planning uses this information as a starting point. The process involves standard land use planning practices, starting with site analysis and proceeding with the generation of alternative development concepts. A preferred alternative is then selected based on an evaluation of how well these plans fulfill specific ADP objectives and the broader goals contained within the Base Comprehensive Plan. A flow chart illustrating the overall planning process is provided in Figure 2.1. The separate sections contained in this Chapter describe each step as illustrated in the figure.

B. Identification

2.2 Goals and Objectives

- a.** The first step in the ADP process is to define goals and objectives. As discussed in Chapter 1, there are many valid reasons for doing an ADP and while the process remains the same, each particular ADP has its own unique focus. The decision to develop an ADP may stem from events outside the area, such as a change in mission, or from within the area, or the realization that the current calculation pattern is not functioning properly. There is an inherent flexibility in the ADP process. It allows planners to resolve specific siting problems without the cost or delay of updating the entire Comprehensive Plan. Ultimately, the Comprehensive Plan will need to be amended to reflect recommendations contained in the ADP.

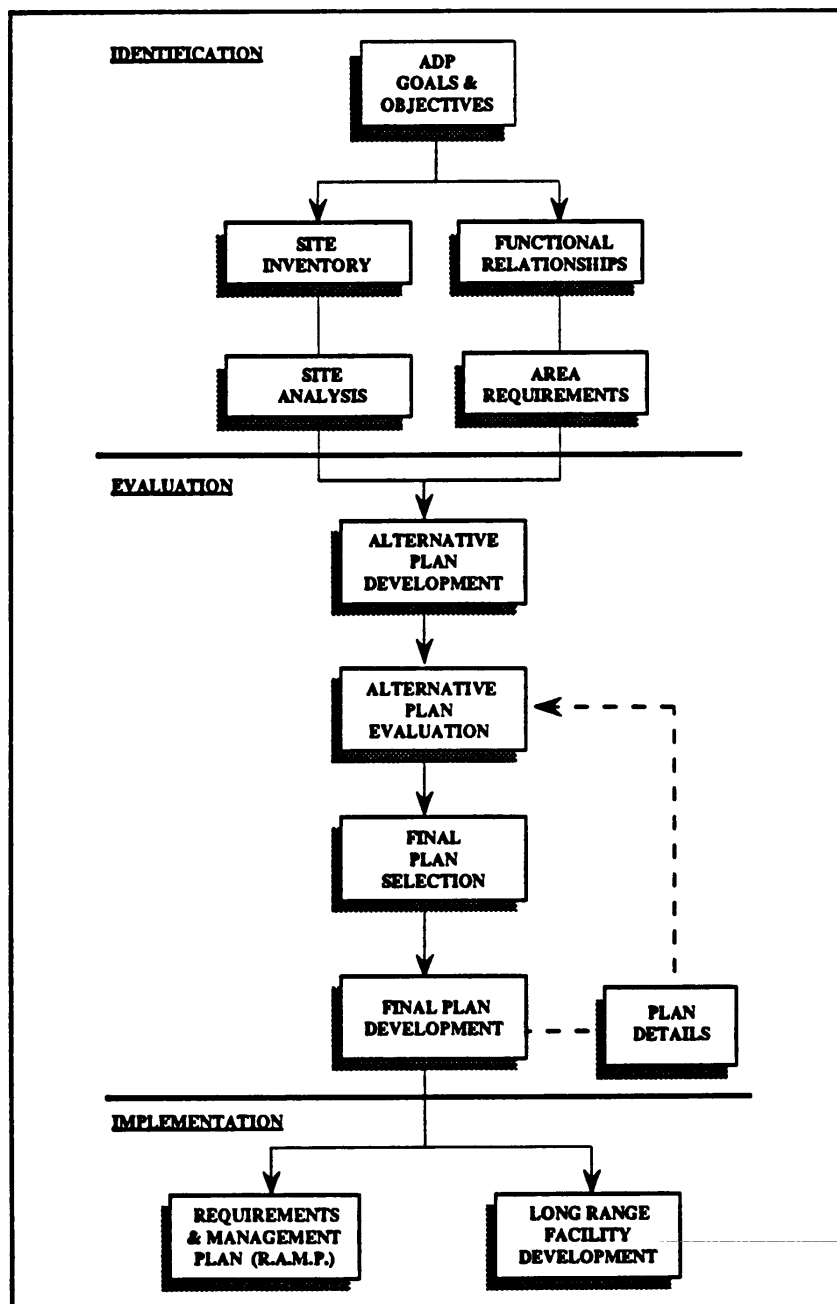


Figure 2.1 ADP Process

- b. Specific objectives should be identified in relation to the overall goal of the ADR. These objectives will help focus the entire effort. While overall goals are quite broad, objectives should be more specific. The following goals and objectives are representative of what might be developed for a typical ADP:

Example 1:

Goal: Improved functional relationships and accessible outdoor amenities for employees in the Installation Headquarters Area.

Objective 1: Confirm all facility siting as identified for the area in the LRFDR

Objective 2: Identify opportunities for Area improvement through landscaping.

Objective 3: Identify opportunities for a centrally-located ceremonial space which will also serve as a place for informal gatherings and lunch-time activity-

Example 2:

Goal: Improved vehicular circulation within the Family Housing Area.

Objective 1: Investigate opportunities for improving access to the Housing Loop Road.

Objective 2: Identify strategies for expanding parking at the elementary school.

Objective 3: Develop a complete vehicular signage program to guide and orient visitors around the area.

- c. The Base Comprehensive Plan typically will identify the boundaries of the various functional use areas for which Area Development Plans can be prepared on a given installation. In the situation where this is not the case, the planner will need to define the area. This is done by identifying the different functions within the approximate boundaries of the area. Boundaries will usually be drawn to exclude incompatible functions or land uses, although there will be exceptions to this rule. For example, a heating plant may be located in an Administrative Area specifically to serve the Administrative buildings and will be included in the ADR. When faced with an existing incompatible land use, one objective of the ADP will be to identify means to mitigate this disfunction. It is best to look for clear physical boundaries such as roads or fences when defining an area, but this is not a requirement.

(Figure 22). It should be noted that, if the boundaries of a given area are altered or redefined during the preparation of the ADP, the LRFDP should reflect these changes when updated.

- d. Clearly defining the program requirements driving the ADP is also part of the initial phase of work. Typically, this will be identified in the Long Range Facilities Development Plan and may undergo some refinement as the ADP develops. The program defines not only specific projects, but also funding sources, scope and timing. The community planner, installation commander, and various user groups all have input into the program. Particular attention should be paid to the ultimate users; they will understand better than anyone else what their actual facilities requirements are.

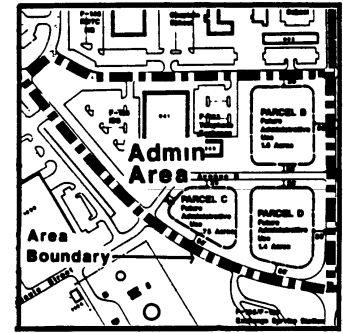


Figure 22 Defining Area Boundaries

2.3 Data Collection

- a. Prior to the development of any ADP, a wide variety of data should be gathered and analyzed to gain an understanding of the site. For a complete discussion of the many forms of data available, as well as available means of collection, manipulation, and display, see the Comprehensive Planning Data Sources and Applications Bulletin in the series of BCP Bulletin/Handbooks which support AFR 8964.
- b. Data collection should focus on physical constraints, users needs, and existing functional relationships. If the installation already has a Base Comprehensive Plan, a great deal of data collection and synthesis is already complete. Information regarding existing natural and man-made conditions is readily available in this document. As a prerequisite to ADP preparation, identify the site's primary constraints and opportunities, including:
 - environmental constraints, such as wetlands, steep slopes or soil engineering problems (Figure I3);
 - physical constraints, such as a lack of available vehicular access or parking;
 - opportunities, such as historical buildings providing strong precedent for architectural character or image (Figure 2.4). In these cases, the demands of preservation may function as a constraint as well as an opportunity;
 - existing facilities suffering from poor siting, which in turn have an adverse effect on the functioning of the area.

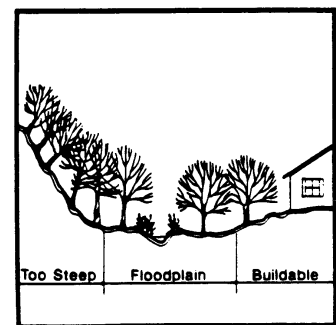


Figure 23 Typical Environmental Constraint

A partial listing of other useful data might include available utility capacity, other planned improvements in the area, and available recreation or other community service resources.

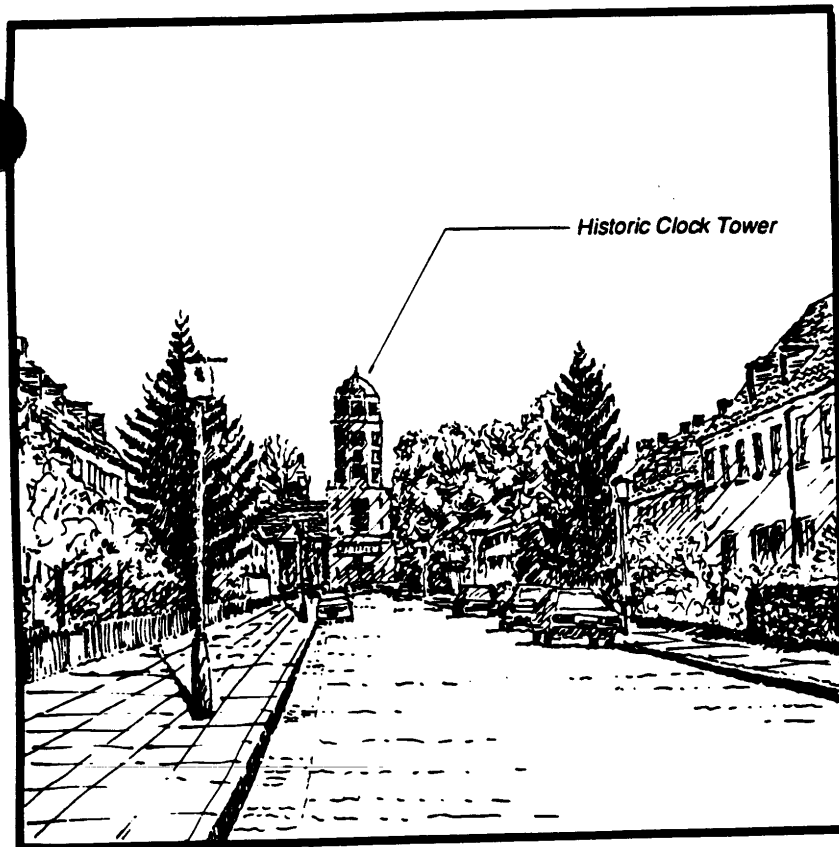


Figure 24 Architecture as Opportunity

- c. Data types fall into three broad categories corresponding to the three environments in which people live and work: the Natural Environment, the Built Environment, and the Socio-cultural Environment. The Comprehensive Planning Data Sources Bulletin has identified 25 categories of planning data and their relationships to the three environments, shown in Figure 2.5.
- d. In addition to the above, other important data sources are aerial photographs, topographic maps, utility maps and an accurate updated installation map. Climatic/environmental data regarding wind/weather patterns are available from local weather services or from AFM 88-29 *Engineering Weather Data*. Interviews with the people most directly affected by the ADP can prove useful in determining actual facilities needs. Current programming may not identify all space requirements correctly.

DATA SOURCES

Federal

- U.S. Geological Survey (U.S.G.S.)
 - Land resource surveys: geologic, geophysical maps, geotechnical maps (1:125,000 scale), reports
 - Mineral resource surveys
 - Energy resource surveys
 - Offshore geologic surveys
- Soil Conservation Service

State

- Geologic Survey
- Department of Natural Resources
 - U.S. Geologic, energy, and mineral resource maps/surveys
 - State geological maps
 - State and county-wide energy and mineral resource maps
 - Geologic structure maps

Regional:

- Regional Planning Agency
- Council of Governments
 - Geologic map, text from Land Use Plan
 - Mineral resource information
- County Planning Agency

Additional Sources:

- Utilities Authority/Commission
- Installation Environmental Division

Figure 2.5 List of Data Sources

e. Base maps will be needed for the area, usually at a scale of 1"=100' or 1"=200', but this may vary depending on the size of a given area (Figure 16). Elements typically found on the base map are:

- existing structures;
- existing transportation features: roads, walkways, and parking lots;
- important natural features, such as streams, water bodies, or extensive woodlands;
- other important site features, such as runways, fencelines, playgrounds, utility easements, parade fields, training ranges, etc.;
- topography;
- scale and north arrow.

f. Compile a base map from existing materials such as aerial photographs or an enlarged topographic map. An updated installation map as mentioned above is sufficient. Both of these sources typically are available from the BCE. This map will be used as a basis for all other plan graphics, including site analysis and plan development.

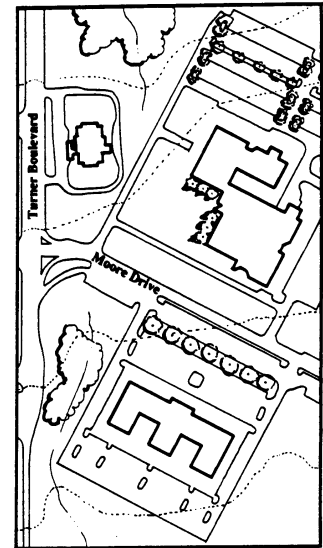


Figure 2.6 Constructing a Base Map

2.4 Constraints and Opportunities

- a. Each area will have characteristics which constrain development and present unique opportunities. The purpose of the site analysis is to reveal these characteristics. Data collection will enable the planner to identify such aspects of the area as steep slopes, utilities availability, circulation patterns, floodplains, etc. Actual site visits will identify items such as architectural character, important views, landscape character, condition of the existing built environment, and prominent design features. Site visits should also be used to verify data gathered through remote means, such as aerial photos and maps.
- b. The first step in the site analysis is to map the factors relating to the natural environment. When working at the ADP scale, it generally is not necessary to resort to different layers to display natural feature data as is done at the BCP level. Typically, a single natural features map can be prepared which will display all factors of interest, as shown in Figure 17. For the ADP planner, the factors of interest are:
- natural features which should be preserved for environmental protection;
 - natural features which should be conserved or studied for aesthetic considerations;
 - natural features which affect feasibility of construction, such as poor soils or steep slopes.

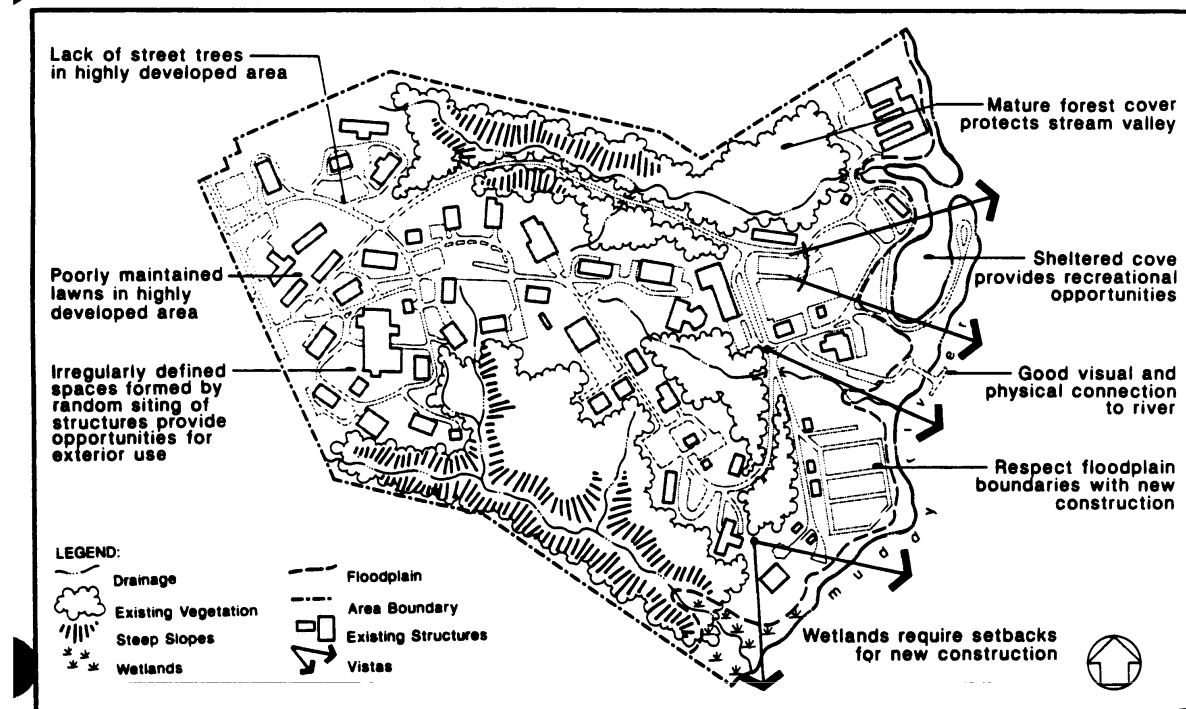


Figure 2.7 Analysis of Natural Environment

- c. The next step is to map important built features of the area, (Figure 2.8). These consist of those buildings or facilities which:
- should be preserved or enhanced as important creators of image;
 - share functional connection with the future development;
 - have a negative impact on the area, through poor siting, deteriorated condition or some other factor.
- d. Major focal points, exemplary architectural features, poor circulation design, substandard buildings and important access points form a partial list of items which might also appear on a Built Features Map.
- e. Another type of analysis which will be required consists of mapping planning constraints imposed for various safety, health or security reasons. The following is a partial listing of these constraints:

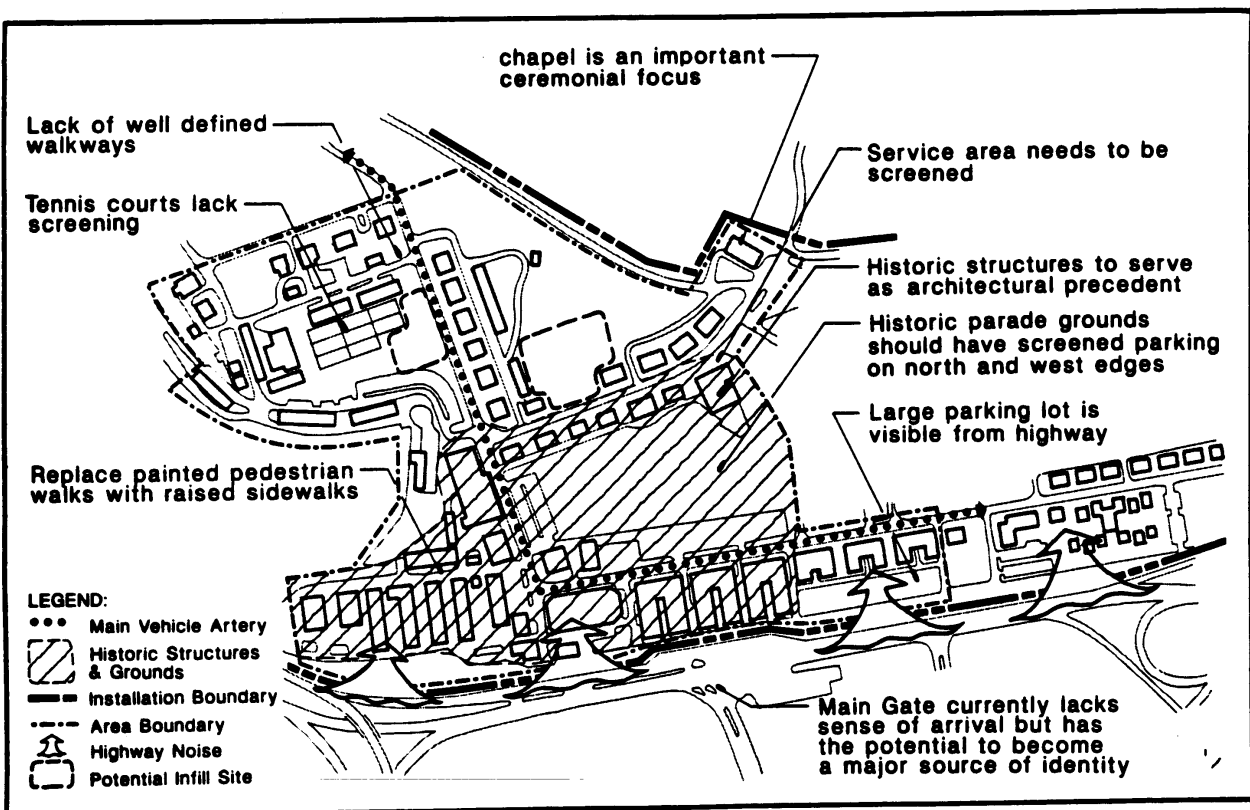


Figure 2.8 Analysis of Built Environment

- Airfield constraints such as approach zones and noise contours;
 - Explosive Safety Quantity Distance (ESQD) arcs;
 - visually intrusive items which should be screened such as dumpsters and transformers;
 - Important visual "nodes" such as points of entry or major crossroads;
 - Major landmarks - historic facades, monuments, memorials, etc.
- f. Development of a Composite Constraints and Opportunities Map is the final step in the site analysis process. Where previous maps listed all the relevant actors without making judgments as to their worth, the Constraints and Opportunities Map applies values to those factors, interpreting them as constraints to be avoided or mitigated, or as opportunities to be exploited. In this way, observation can be translated into action. The Constraints and Opportunities Map will give additional direction for the development of ADP alternatives (Figure 2.9).

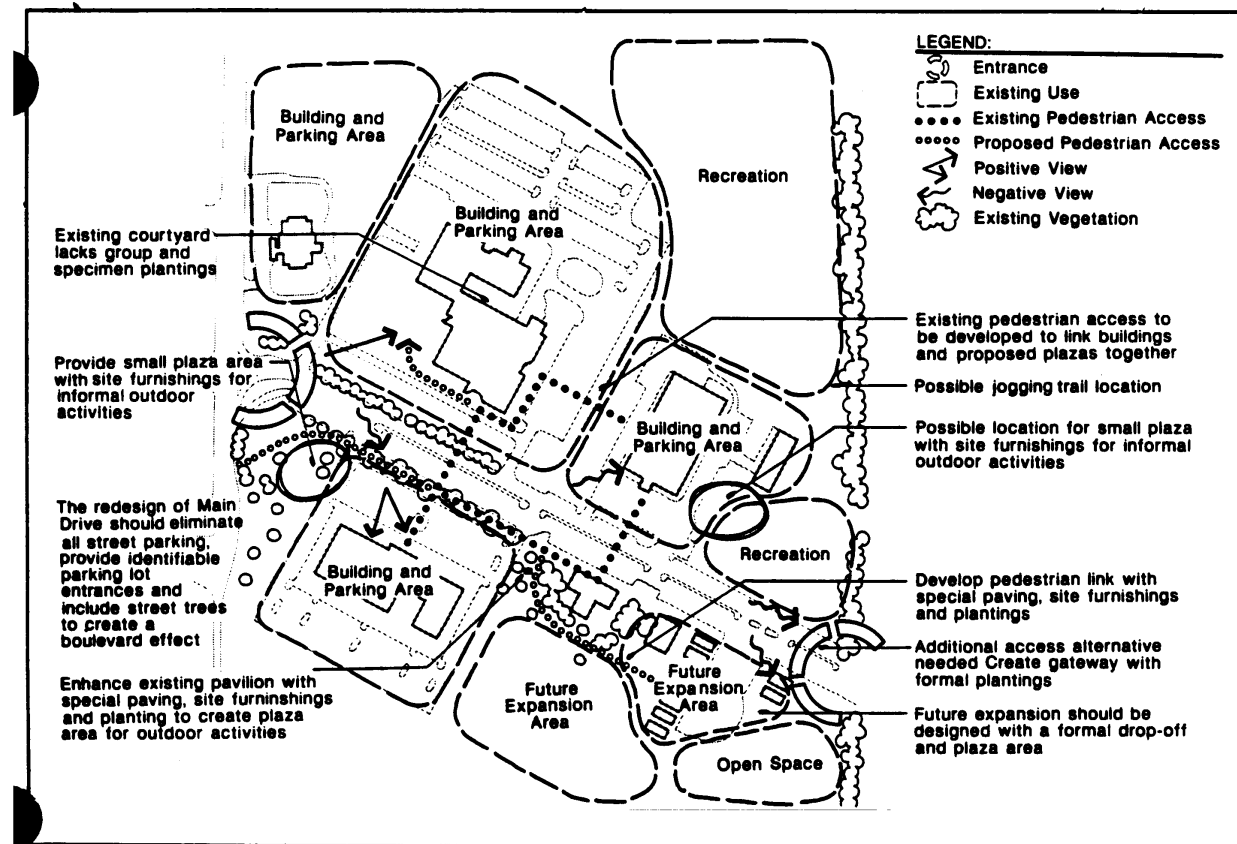


Figure 2.9 Constraints and Opportunities

2.5 Functional Relationships

- a. The importance of assessing functional relationships at the land use level is well known, and the relationships between the standard land use categories are well defined (for a review of functional relationships at the BCP scale, see the *Land Use Planning Bulletin*.) This process consists of analyzing the interactions between categories to determine whether a given pair of land uses need to be linked or separated in order to function properly. In this process, the various land uses acquire a spatial order among themselves, according to the importance of their proximity to other land uses.
- b. Similar analysis can occur at the ADP level. This analysis involves reviewing relationships of actual buildings or facilities, rather than land use types. A knowledge of all existing and planned facilities within this area and the ways in which functions housed in these facilities interact is required. Interviews of the current users may be required to achieve the necessary understanding of the functioning of the area. The findings can be summarized in a matrix, which is good for organizing large amounts of data, or more graphically as "bubble diagrams", which can communicate information regarding scale and spatial organization. Examples of both types are provided in Figures 2.10 and 2.11 and within the case studies provided in Chapter 3.

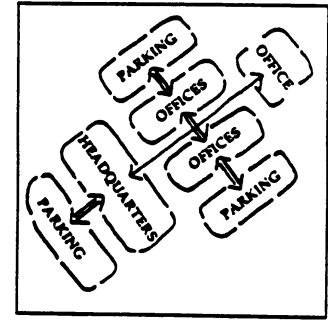


Figure 2.11 Functional Relationship Diagram

COMMUNITY CENTER
Functional Relationships

● Collocation Desired
 ◐ Compatible
 ○ Incompatible

	Exchange	Commissary	Personnel Support Functions	Library	Chapel	Clubs	Gym / Recreation Facilities	Child Care	Open Space
Exchange	●								
Commissary	●	●							
Personnel Support Functions	◐	◐	●						
Library	◐	◐	◐	●					
Chapel	◐	◐	◐	◐	●				
Clubs	◐	◐	◐	◐	◐	●			
Gym / Recreation Facilities	◐	◐	◐	◐	◐	◐	●		
Child Care	○	○	◐	◐	◐	◐	◐	●	
Open Space	◐	◐	◐	◐	◐	◐	◐	◐	●

Figure 2.10 Functional Relationship Matrix

2.6 Land Area Requirements

a. Land area requirements for new facilities must be determined before siting alternatives can be developed. Land area requirements are determined by building footprints parking, setbacks, open space, access, and any other special land area requirements a facility may have, such as outdoor storage. Other factors to consider are utility requirements and noise and visual buffers. Approximate land area coverage for a specific building can be determined using the general square-footage requirements provided by the LRFDP and choice of an appropriate building height. Simple building footprints must be developed for incorporation into the ADP, approximating final building form. If no site can be found to accommodate the programmed facility, consider reviewing the program. Possibly the site can accommodate a reduced scope. An alternative would be to create a site by demolishing substandard facilities.

b. AFM 86-2 provides formulas based on the number of employees to determine the parking allowance for each structure. These formulas should be used as a guideline along with the Transportation Plan, which provides information about the driving habits and parking needs of installation workers & residents, to determine the parking requirements for a facility. Data collected in the interviews will also help planners decide how much parking should be provided for a specific structure (Figure i12). Special parking and access requirements, such as loading docks and government vehicle parking areas, should also be considered.

c. Determine all relevant setbacks and dear zones for the area under study and transfer them onto the base map. These constraints will define the amount of available developable land. The following is a partial listing of relevant constraints:

- Health and safety constraints, such as safety distances from weapons storage areas, or airfield dear zones (Figure 113);
- Setbacks from perimeter fences for security reasons;
- Environmental restrictions, such as those required for wetlands;
- Aesthetic and safety setbacks, such as building setbacks along streets.

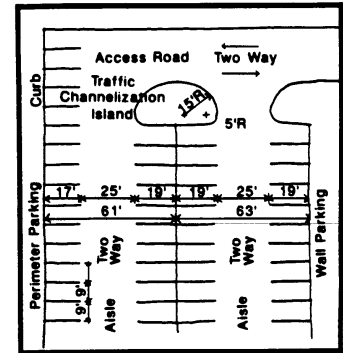


Figure 2.12 Typical Parking Dimensions

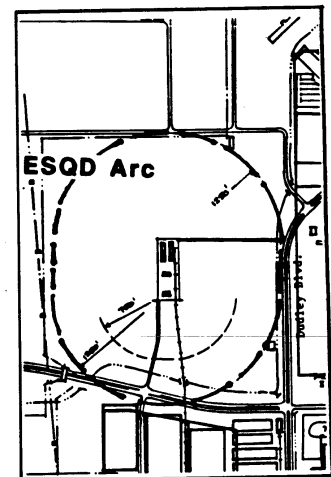


Figure 2.13 Explosive Safety Setbacks

- d. All developable land area must be determined before alternative plans for new projects can be prepared. Any given area typically will contain multiple potential development sites (Figure ~14). Available land should be determined from the Constraints and Opportunities Map. Space which can be made available immediately through building demolition or rehabilitation should be identified. Sometimes planned future development will create space through demolition and these opportunities must be identified. A phasing plan will frequently affect the project priorities, because of the need to demolish and build in an orchestrated, sequenced manner.

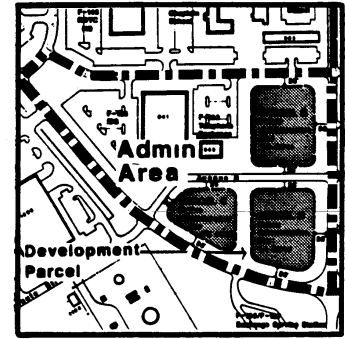


Figure 2.14 Multiple Development Sites

C. Evaluation

2.7 Alternative Plan Development

- a. Developing alternative plans is the next step in the ADP process. The nature of this step will be affected by the type of projects programmed into the ADP. For example, in a facility siting-oriented ADP, the decision might be to choose between a centralized development core (Figure i15) or a dispersed plan solution which distributes new facilities throughout the area (Figure 2.16). If the ADP has major transportation projects, the choices may be to build a new ring road with peripheral parking or to upgrade an existing road to increase its capacity and distribute new parking within easy access. Each ADP will have a unique a unique set of siting decisions which must
- b. The process of developing the various alternative plans typically is a non-linear process, involving many steps carried out simultaneously with many repetitions. The essence of Area Development Planning is to define the existing and the proposed facilities which will ultimately comprise the given functional area, and, working within the Area limits, to arrive at that arrangement of facilities which gives the most satisfactory results from a functional and aesthetic point of view. It is important to explore several alternative site plans before arriving at a preferred plan, to ensure that all implications of a siting decision have been explored and understood.

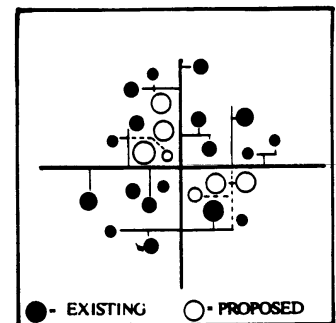


Figure 2.15 Clustered Development

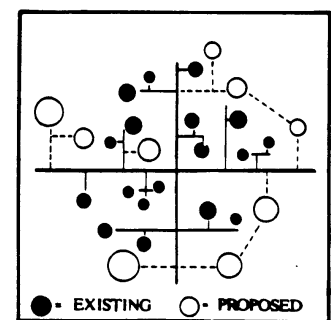


Figure 2.16 Dispersed Development

- c. The initial result will be a series of plan alternatives with each programmed project having one or more alternative sitings and layouts. At a minimum, the plans will show:
- building footprint;
 - orientation to the roads;
 - location of parking;
 - access roads;
 - pedestrian access; and
 - building access points, including service access.
- d. These plans should also illustrate design ideas and compositional strategies, such as spatial arrangements or axial composition, in some diagrammatic fashion. This can be done using centerlines, annotations, or small diagrams placed to the side. The intent here is to illustrate the ideas which organize the plan, not only the pieces which make up the plan.

2.8 Alternative Plan Evaluation

- a. When drawing up the different plan alternatives, a list of pros and cons should be made up simultaneously for each alternative. These evaluations will be used to compare the alternatives to select the preferred plan for further refinement. Typically, a matrix can be used to list these points and rank the plans accordingly (Figure 2.15). As an example, the matrix might include the following evaluation criteria:

- Functional compatibility of the various facilities;
- Vehicular and pedestrian access and other transportation requirements;
- Adequate utility service; and
- Visual considerations, such as architectural compatibility and creation of positive sightlines.

- b. The alternative plan evaluation process used when preparing an ADP is a balancing act weighing conflicting demands such as site constraints, ideal solutions, cost and future expansion needs. The preferred alternative will be the one that best addresses these demands while at the same time meets the goals and objectives outlined at the beginning of the process. This may take several iterations of alternative development, and the final preferred plan may incorporate features of more than one of the initial alternatives.

	ALTERNATIVE 1	ALTERNATIVE 2	ALTERNATIVE 3
Provides Pedestrian Access	1	3	5
Well-defined Circulation System	2	5	4
Opportunities for Expansion	4	2	5
Appropriate Building Scale	4	4	2
Includes Landscape Amenities	2	2	3
TOTALS	13	16	19

(1 = Good, 5 = Poor)

Figure 2.17 Evaluation Matrix

2.9 Final Plan Selection

Before proposing a preferred plan, the planner should involve installation planners, command personnel, and other appropriate interested parties, such as members of the Facilities Board/Planning Board, to assess the alternatives. Evaluate the assets and liabilities of each alternative site to provide a basis for discussion by the planning team. Planning consultants (if involved), installation planners, commanders, and other members of the team should then reach a consensus on the appropriate site for each new project. The final plan must be agreed upon by the installation commander and the Facilities Board/Planning Board if the plan is to be successful

2.10 Final Plan

a. The evaluation procedure will yield a series of alternatives to be incorporated into a Final Plan, an example of which is shown in Figure 2.18. Typically, the following elements are shown on the Final Plan:

- Building envelopes drawn to reflect the required square footage and desired orientation, including solar orientation. Actual footprints will be determined by building designers;
- Appropriate building setbacks;
- All roads and parking lot layouts. Parking lots must accurately show the number of cars to be accommodated;
- All required pedestrian circulation improvements. These should reflect existing conditions as well as planned improvements;
- Areas set aside for plazas or outdoor displays associated with a particular facility. The Installation Design Guide or Landscape Development Plan may provide guidelines for such amenities;
- Areas with special pavements and street furnishings;
- Major landscape elements, such as formal or informal tree plantings, shrub massings, displays of flowering plants, and tree preservation areas if tree clearing is involved;
- Other important large scale open space elements, such as athletic fields or parade grounds;
- Service areas where required, including trash dumpsters. The Final Plan should show screening devices for unattractive service features where needed;
- Available expansion areas, planned or otherwise.

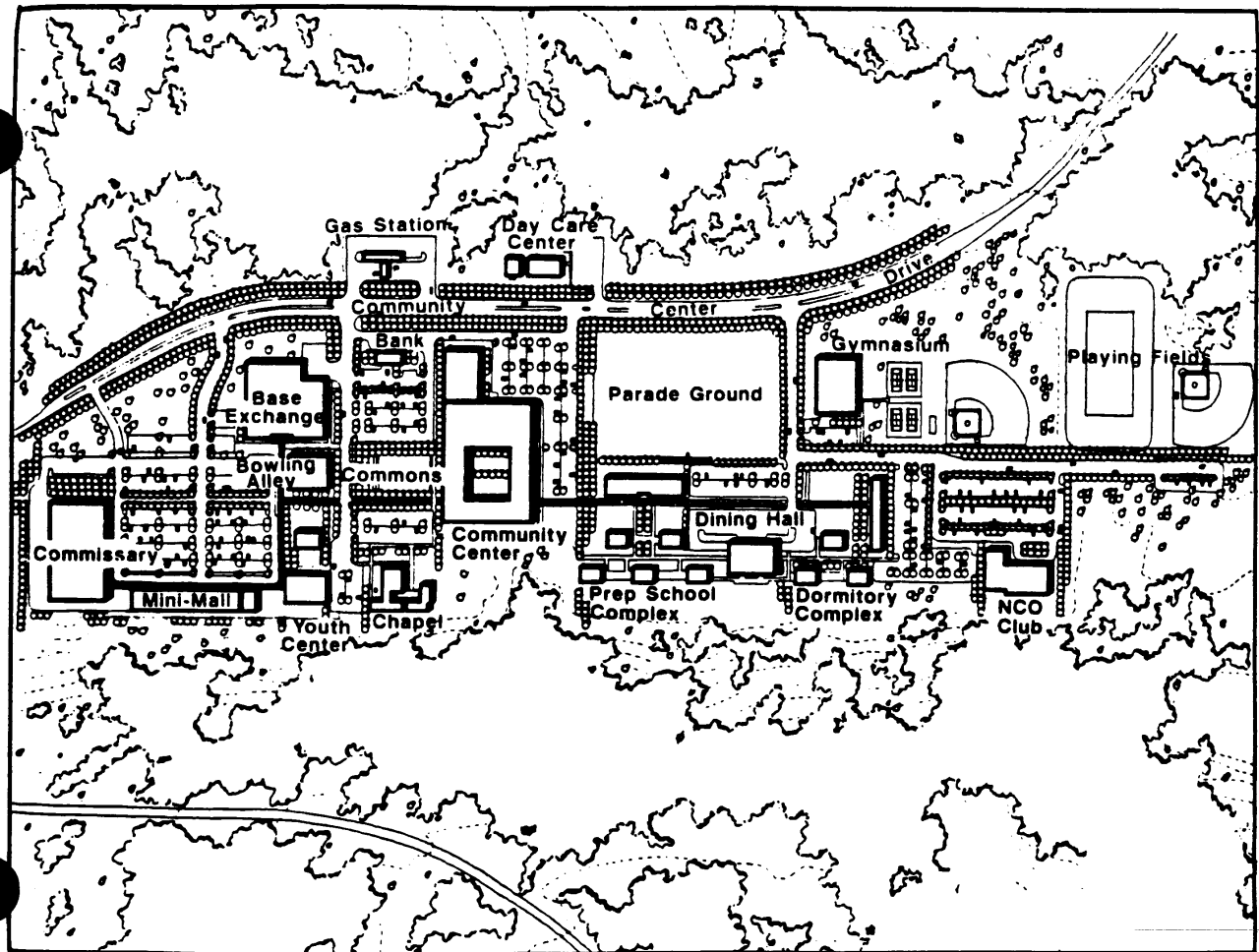


Figure 2.18 Final Plan

- b. Each ADP will include a brief narrative. If applicable, the following elements of the plan should be described in the text:
- Effect of ADP on basewide Land Use Plan;
 - Proposed facility projects;
 - Recommended transportation improvements;
 - Recommended utilities systems upgrades and infrastructure improvements to meet facilities requirements;
 - Architectural design recommendations & guidelines;
 - Landscape architectural recommendations and guidelines.

- c. The ADP expands on Comprehensive Plan component plans, particularly the Land Use, Transportation and Long Range Facility Development Plans. It addresses these planning issues in finer detail (See Chapter 3.0 and Appendices). This discussion will be supplemented by additional specific recommendations emerging from development of the ADP. As a result, the ADP recommendations may diverge somewhat from the Comprehensive Plan, which should be reviewed and updated to reflect each ADP that is adopted.
- d. The ADP is an inherently flexible document which can be tailored to specific needs. Once the Final Plan has been completed, a variety of more detailed studies may be included into the ADP document to focus on particular problems or to illustrate the design thought process. These may include:
- Building massing, view enhancement/protection strategies and proposed road cross-sections used to develop the Plan;
 - Planting design details;
 - Other design detailing such as material and color palettes for such things as buildings, pavements, street furnishings, etc.;
 - Signage, lighting or other street furniture recommendations (Figure 2.19).

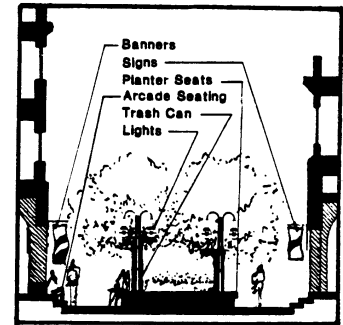


Figure 2.19 Street Furniture

D. Implementation

2.11 Implementation Mechanisms

The Area Development Plan relies on a variety of mechanisms for implementation. It is inseparably linked to the Long Range Facility Development Plan which identifies project funding sources and priorities. Refer to the *LRFDP Bulletin* for a complete discussion of military project implementation procedure used during the implementation process. What follows is condensed discussion of the implementation process.

In order to implement an ADP, the following steps must be taken:

- Develop a list of projects for the particular area;
- Identify funding sources for each project;
- Identify a schedule and phasing plan for completion of each project; and
- Link ADP projects to programming documents.

2.12 Project List

- a. The Project List should list, according to priority, all projects proposed for that area by the ADP. Projects should be listed by funding category. Within each category the highest priority should be given to those projects essential to the fulfillment of the installation mission. A rough cost estimate should be developed at this time for each proposed project. While typically this information will be available from the LRFDP and the Capital Improvements Plan (CIP), it may need to be updated for the ADP.
- b. Implementing the ADP often involves a complicated, interdependent succession or chain of activities, including building demolition, organizational moves, and new construction. These actions must be identified as part of the planning process and monitored throughout the implementation period.

2.13 Funding Sources

Funding for project construction typically comes from one or more of five major sources, including Military Construction funds (MILCON), Operations and Maintenance (O&M) fund, Military Family Housing (MFH) fund, Non-appropriated Funds (NAF, including private funds) (Figure 2-20). The appropriate funding sources must be identified for all projects as part of the implementation process.

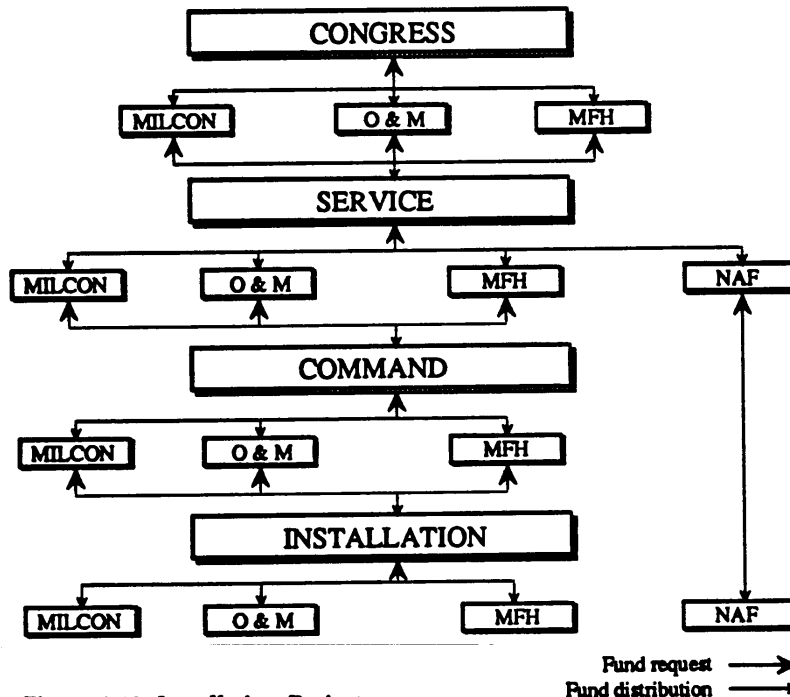


Figure 2.20 Installation Project Funding Flowchart

2.14 Project Schedule

- a. In order for an ADP to be implemented smoothly, each step of the way must be thought out. The easiest way to develop a schedule of actions required to implement the ADP is to start with the first project and list all the actions required for its successful completion. For example, a building may have to be demolished before construction can begin. In that case, the occupants of that building will have to be moved out, making their move the first necessary action associated with that project (Figure L21). Once all the necessary actions have been identified, dates can be assigned to each action or group of actions. This then becomes the schedule that installation planners use to track the progress of the plan and to ensure its orderly implementation.
- b. The list of actions for the above-mentioned project might read like this:
- 1) Move organization A out of Building X into new or interim quarters.
 - 2) Demolish Building X.
 - 3) Construct Building Y at former site of Building X.
 - 4) Move Organization B from Building Z into Building Y.
 - 5) Demolish Building Z (or move Organization C into Building Z). The demolition of Building C or the movement of Organization C may then be the beginning of another project cycle.

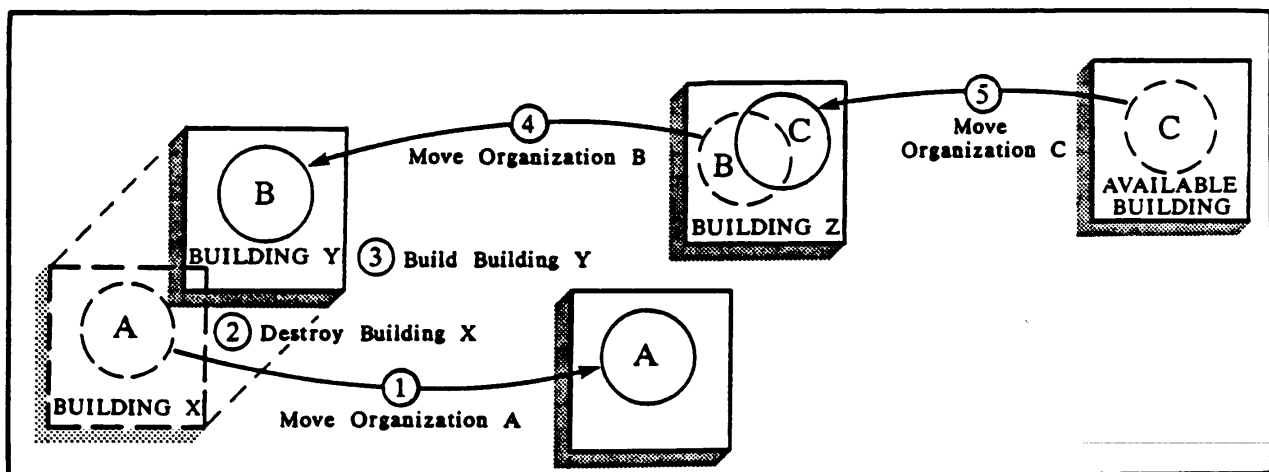


Figure 2.21 Project Critical Path

c. Another method of graphically displaying phasing information is illustrated in Figure 2.21. All proposed projects, including facilities, parking, circulation, and landscaping have been placed in the following three categories:

- 1) Immediate - these projects are funded and proceeding;
- 2) Independent - these projects may be done in any order as they are not dependent on completion of other projects to precede;
- 3) Interdependent - projects which are dependent on the completion of another project before they can be implemented.

Projects in the immediate and independent categories can proceed at the discretion of the installation commander and the availability of funds. Interdependent projects must be done in the proper sequence.

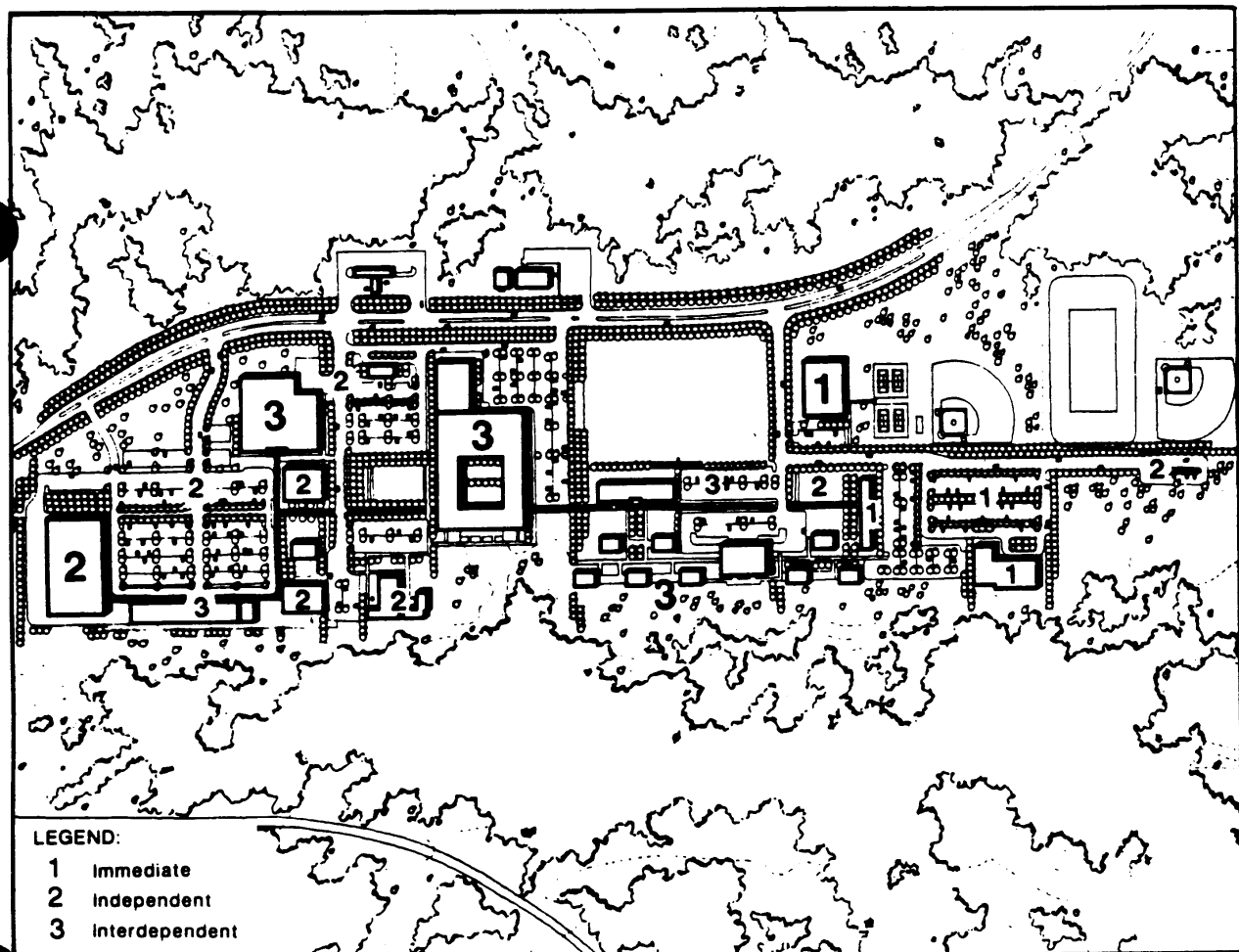


Figure 2.22 Project Phasing

2.15 Links to Programming Documents

The typical implementation process will be followed by major ADP projects in all funding categories. As described in the USA's Construction Technical Letter 90-1, the requirement to prepare a Project Book (PB) for every project prior to funding has been rescinded. In place of a PB, a Requirements and Management Plan (RAMP) is required. Every RAMP must contain a Long Range Plan or an ADP addressing the area where the project is located, showing how it supports and extends the overall Comprehensive Plan. The intent is to replace a facility-oriented process with a more flexible area-oriented process during the early stages of project development. The ADP must address, at a minimum, land uses, transportation planning, and functional relationships in the area of the project.

2.16 Keeping Up with Change

- a. The ADP is intended to be a dynamic, flexible, document which helps the Installation respond to changes in mission or Installation priorities. It becomes a part of the BCP upon completion. Consequently, the ADP will affect the Transportation Plan, the Long Range Facilities Plan, and other component plans. In principle, the ADP uses these plans for guidance (if they are available) but, as it looks at the Area in greater detail, and addresses current issues and problems within a specific area, the final plan may update the component Plans.
- b. In addition, with the current interest in downsizing throughout the Department of Defense, the ADP is one means of exploring various options. Review of current space and requirements, functional relationships, and future plans for expansion or contraction of functions and numbers of employees can be undertaken within the ADP framework. Changes proposed by the ADP could then be used to amend the list of projects within the UP.

2.17 Summary

In summary, the Area Development Planning Process aims to create the most functionally efficient and aesthetically pleasing arrangement of facilities possible within a given Area. This is done by siting all identified projects in a well-phased, non-disruptive process which incorporates good landscape and urban design principles. The most important characteristics of the ADP process include:

- A thorough analysis of the physical features of the Area, as well as the programmatic requirements;
- An involvement of the ultimate users of the facilities, through interviews early in the process;

- An exploration of multiple alternatives before setting on a final plan, to ensure siting decisions are looked at from many points of view;
- The development of a Final Plan, which illustrates all siting decisions and shows the final form of the Area after all project construction is complete, and;
- An implementation and phasing strategy to complement the Final Plan and ensure a problem-free construction process.

Chapter 3:

Area Descriptions and Criteria

Chapter 3: Descriptions and Criteria

A. Introduction

3.1 Background

There are typical areas common to almost all installations. These areas generally follow land use classifications to emphasize the concept of functional integrity. Area Development Planning is the process used to improve the visual appearance and functional operations of these areas. This Chapter establishes some broad guidelines to be used when preparing an Area Development Plan for some of these areas. It is to be used only as a starting point, and should be complemented by the specific requirements of the Base Comprehensive Plan, and the facilities located in those areas.

Air Force Land Use Planning Pamphlet (AFP 8~) lists 12 land use categories that typically comprise an installation. This Chapter discusses the seven most common areas. They are:

- Aircraft Operations Areas;
- Industrial Areas;
- Administrative Areas;
- Community Center Areas, (including both Community (Service) and Community (Commercial) land use categories);
- Family Housing Areas;
- Unaccompanied Housing Areas;
- Outdoor Recreation Areas.

Land use categories not included in this Chapter are:

- Open Space and Water, which are not considered functional areas;
- Airfields;
- Medical, of which few installations have a sufficient number of facilities to comprise a large enough area for an ADP.

3.2 Chapter Format

Each Area Description contained in this Chapter is divided into four sections.

- Area characteristics: This section lists common facilities and characteristics that are unique to the area. The facilities list is not all-inclusive. Rather, It lists the most important facilities typically found in the area. (For a more complete listing refer to *AFP 86-7*.)
- Functional Relationships: This section discusses functional relationships among important facilities in the land use area.
- Planning and Design Guidelines: Important planning and design principles are discussed in this section and illustrated with margin graphics. The section discusses planning and design principles in a broad manner so as to be applicable to as many different installations and situations as possible. (For a more detailed discussion of some of these principles refer to Appendix A, Design Guidelines for Peterson A.F.B.)
- Case Study: A prototype example of an ADP is provided as a case study in the final section of each area description. The format of the case studies is as follows:
 - Introduction: A description of the case study area and its relationship to the over all installation and BCP objectives;
 - Analysis Questions: A plan of existing conditions in the case study area along with a list of typical questions that would be formulated-during an ADP analysis;
 - Area Development Plan: A final plan illustrating the ADP. (The general notes in the final plan correlate with the general notes in the existing conditions plan. Long-range development in the case study area is also discussed.

- Details: Portions of the case study ADP are shown at a larger scale to illustrate the level of appropriate detailing.

The case study is not only an example of an ADP but also illustrates how an Area Development Planning interacts with both the Base Comprehensive Planning and Site Planning process.

Private-sector projects are included, where appropriate, to provide additional examples of relevant planning concepts.

B. Aircraft Operations Areas

3.3 Aircraft Operations Areas characteristics

Aircraft Operations Areas incorporate all the facilities that directly support flying missions (Figure 3.1.1), and include all the activities that take place on the airfield and in the hangars, shops and terminals. Aircraft Operations Areas are characterized by:

- Both aircraft and vehicle traffic;
- Strict siting constraints (Figure 3.1.2) set forth in military regulations Including clear zones, Air- Installation Compatible-Use Zone, imaginary surfaces, etc. (Refer to AFR 86-14 for a complete list of siting requirements);
- Security concerns and controlled access;
- Large buildings to store aircraft and freight;
- Strict constraints governing the parking, storing and maintaining of aircraft;
- An operational and safety-driven relationship among fuel storage tanks and other explosive and hazardous materials;
- Appropriate arrival points for visiting officers and VIPs.

3.4 Functional Relationships

Aircraft Operations Areas require an immediate physical proximity to airfields. (Figure 3.13) Locate the support operations terminal and control tower with clear views of the airfield and taxiways.

	Aircraft Hangar	Aircraft Apron	Avionics Shop	Control Tower	Cargo Facilities	Aircraft Maintenance Shops
Aircraft Hangar	●	○	○	○	○	○
Aircraft Apron	●	●	○	○	○	○
Avionics Shop	○	○	○	○	○	○
Control Tower	○	○	○	○	○	○
Cargo Facilities	○	○	○	○	○	○
Aircraft Maintenance Shops	○	○	○	○	○	○

Figure 3.1.3 Functional Relationships Table

Aircraft Hangar

Aircraft Apron

Avionics Shop

Control Tower

Cargo Facilities

Aircraft Maintenance Shops

Figure 3.1.1 Listing of Some Common Aircraft operations Facilities

Explosive Clear Zones

Airfield Clearance Setbacks

Primary Surface

Approach-Departure Clearance Surface

Q-D Zone

Conical Surface

Inner Horizontal Surface

Outer Horizontal Surface

Transitional Surface

Figure 3.1.2 Listing of Some Primary Airfield Siting Constraints

Group related operations and maintenance facilities together to facilitate efficient operations. Cargo facilities have a direct relationship with the support operations terminal. Locate fuel storage and hazardous materials in a remote location.

3.5 Planning and Design Guidelines

a. General Guidelines

General Guidelines for the area should allow for rapid and economical responses to mission or organizational changes. Military regulations, such as Airspace safety criteria, explosive safety criteria and Imaginary surfaces, govern the limits of land available for development.

- Locate only aviation related facilities along the flightline because of the limited available space.
- Locate the support operations terminal in a primary location to facilitate the efficient processing of cargo and passengers without effect to physical security (Figure 3.1.4).
- Provide a continuous perimeter fence to ensure security and safety in the area.
- Locate fuel storage tanks within a perimeter security fence and away from the airfield.

b. Service Vehicle Circulation Guidelines

Vehicle traffic in the Aircraft Operations Area services aircraft.

- Cluster related aircraft service facilities to reduce the amount of service vehicle traffic in the airfield and ramp area and reduce the potential for accidents.
- Provide direct and unimpeded access to the flightline for fire protection, aircraft fueling and other activities that may not have a location in the ramp area but still require direct access to the flightline.
- Facilitate the transition for air passenger and air activities between airfield and installation facilities.

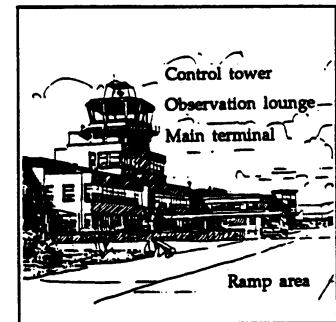


Figure 3.1.4 Operations Terminal

c. Vehicular circulation Guidelines

Vehicular circulation guidelines should govern the movement of the passenger vehicles in parking areas and roads immediately outside the airfield security fence.

- Provide separate parking areas for people who work on the flightline near the facilities in which they work.
- Provide parking areas that are large enough to accommodate increased activity during contingencies.
- Provide direct and unimpeded access to the area for emergency service vehicles (Figure 3.1.5).
- Clearly delineate travel lanes for emergency and service vehicles along taxiway and aircraft parking aprons to avoid conflicts between service vehicles and aircraft.

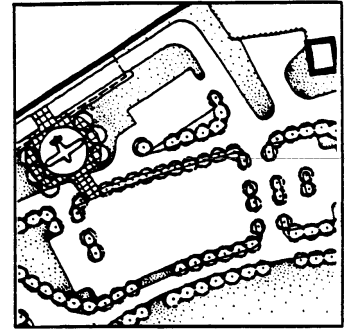


Figure 3.1.5 Parking Areas

d. Architectural Design Guidelines

Most of the buildings in the Aircraft Operations Area are aircraft hangars, storage buildings and service terminals. All of the buildings in the area have height restrictions for safety purposes.

- Place buildings parallel to the flightline for functional efficiency and to create a buffer zone between the flightline and the installation.
- Highlight the control tower with special architectural treatment (Figure 3.1.6). Signify its importance by:
 - Using durable quality materials that differentiate from other buildings in the area.
 - Create a unique form for the tower column (tapered, cylindrical, etc.).
- Create a consistent architectural character for the area by using similar roof forms and materials. Highlight any architecturally significant roof truss systems that were used to achieve the great clear spans required for aircraft and cargo hangars (Figure 3.1.7).
- Do not use exterior lights on the building, which would create glare that distracts pilots attempting to land on the airfield.
- Plan for hangar footprints that are large enough to accommodate more than one type of aircraft.

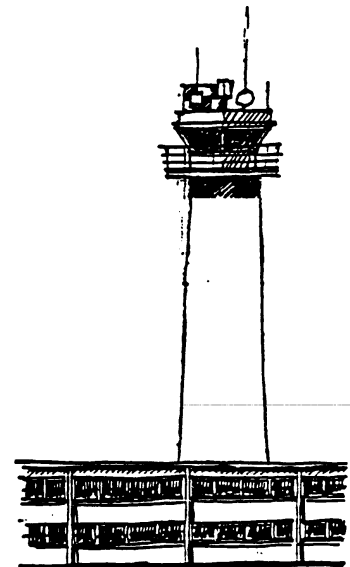


Figure 3.1.6 Control Tower

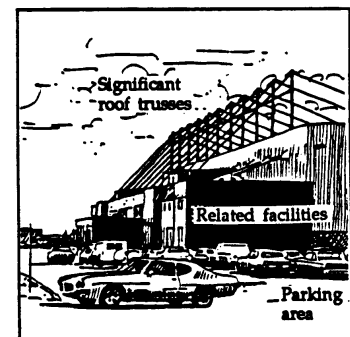
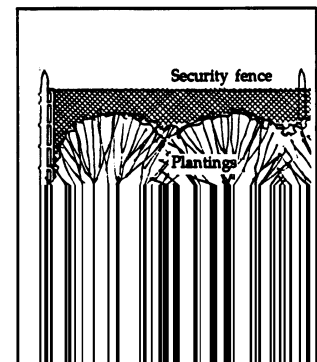


Figure 3.1.7 Prominent Roof-Truss System

e. Landscape Architectural Design Guidelines

Landscape design in an Aircraft Operations Area should be functional and utilitarian. The entrance to the air passenger terminal should receive special landscape design treatment. Avoid violating military regulations regarding airspace obstructions.

- Select trees that when fully grown will not violate airspace clearance criteria.
- Use trees and shrubs to visually and spatially define parking lots and main drives.
- Highlight memorials and passenger terminal entrances with special paving, ornamental planting, and lighting.
- Screen dumpsters, maintenance yards and security fences with landscape plantings and earth berms (Figure 3.1.8).
- Integrate security features such as walls, fences, and gates into an overall landscape design.
- Avoid any condition that would attract birds to the flightline, including the planting of certain vegetation



3.6 Case Study

a. Introduction

This Case Study example addresses the future development of a flightline and ramp area. Major uses in the Case Study include aircraft parking, hanger space, passenger and cargo terminals and air field operations. Listed below are Comprehensive Plan objectives that effect the Aircraft Operations Area.

b. Comprehensive Plan Objectives

- Reposition the air traffic control tower from the opposite ramp area to improve sightlines.
- Add a cargo processing office, in-flight kitchen, and air freight terminal
- Provide additional ramp space to accommodate two squadrons of tenant aircraft.
- Increase flightline security by adding additional guard houses and an automated gate system to the perimeter security fence

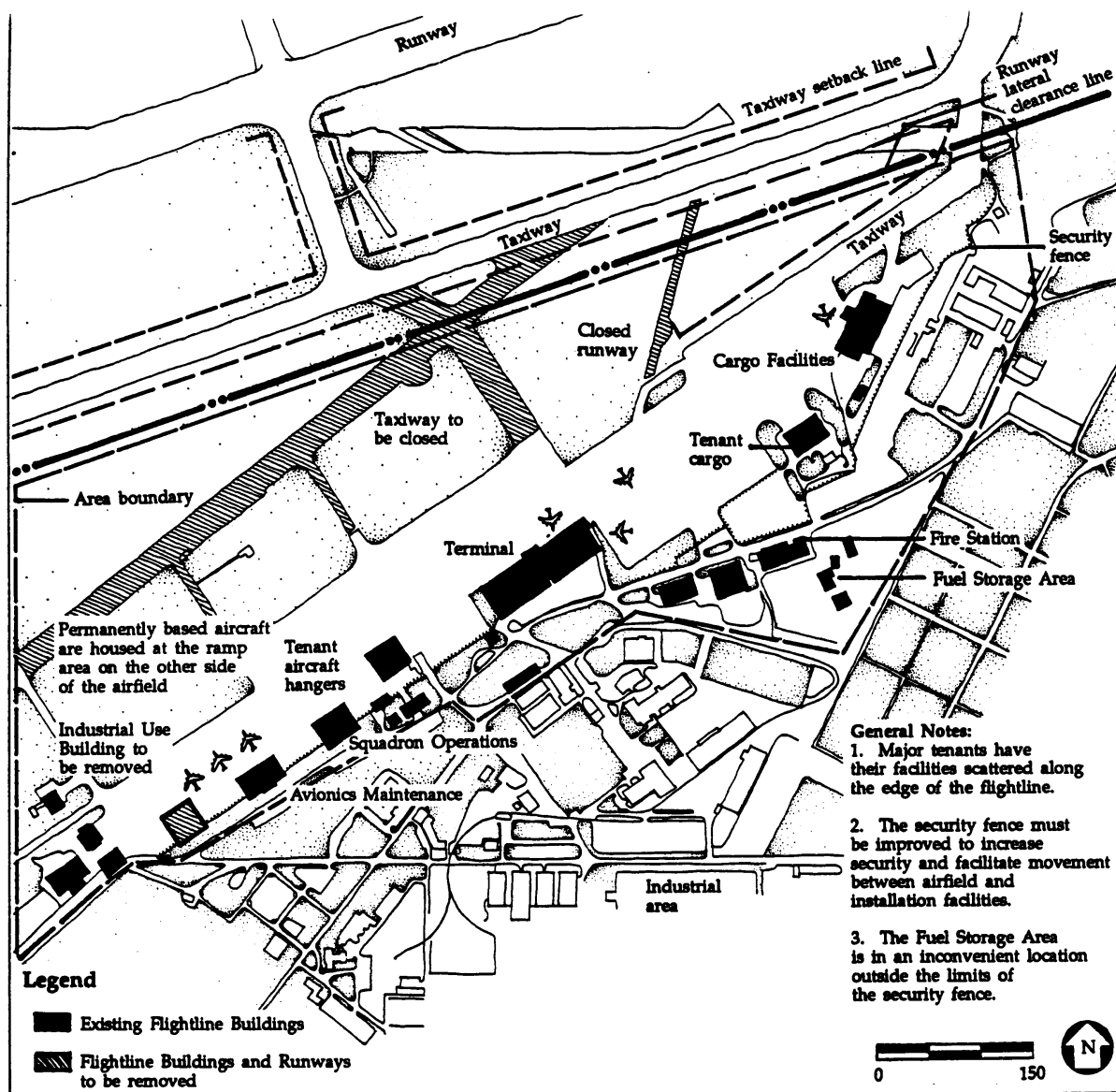


Figure 3.1.9 Existing Conditions

c. Analysis Questions

An analysis of the Case Study area (Figure 3.1.9) should answer the following questions:

- Are operations and maintenance facilities grouped according to function to provide the most effective use of the limited ramp space (Figure 3.1.10)?
- Can the existing layout readily accommodate the mission or organizational changes that are possible in the future as the military is forced to consolidate many of its installations?

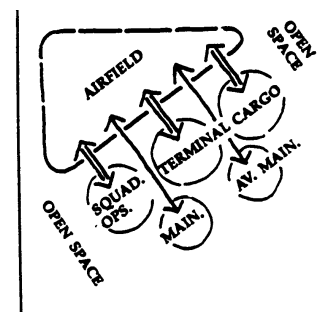


Figure 3.1.10 Functional Relationships

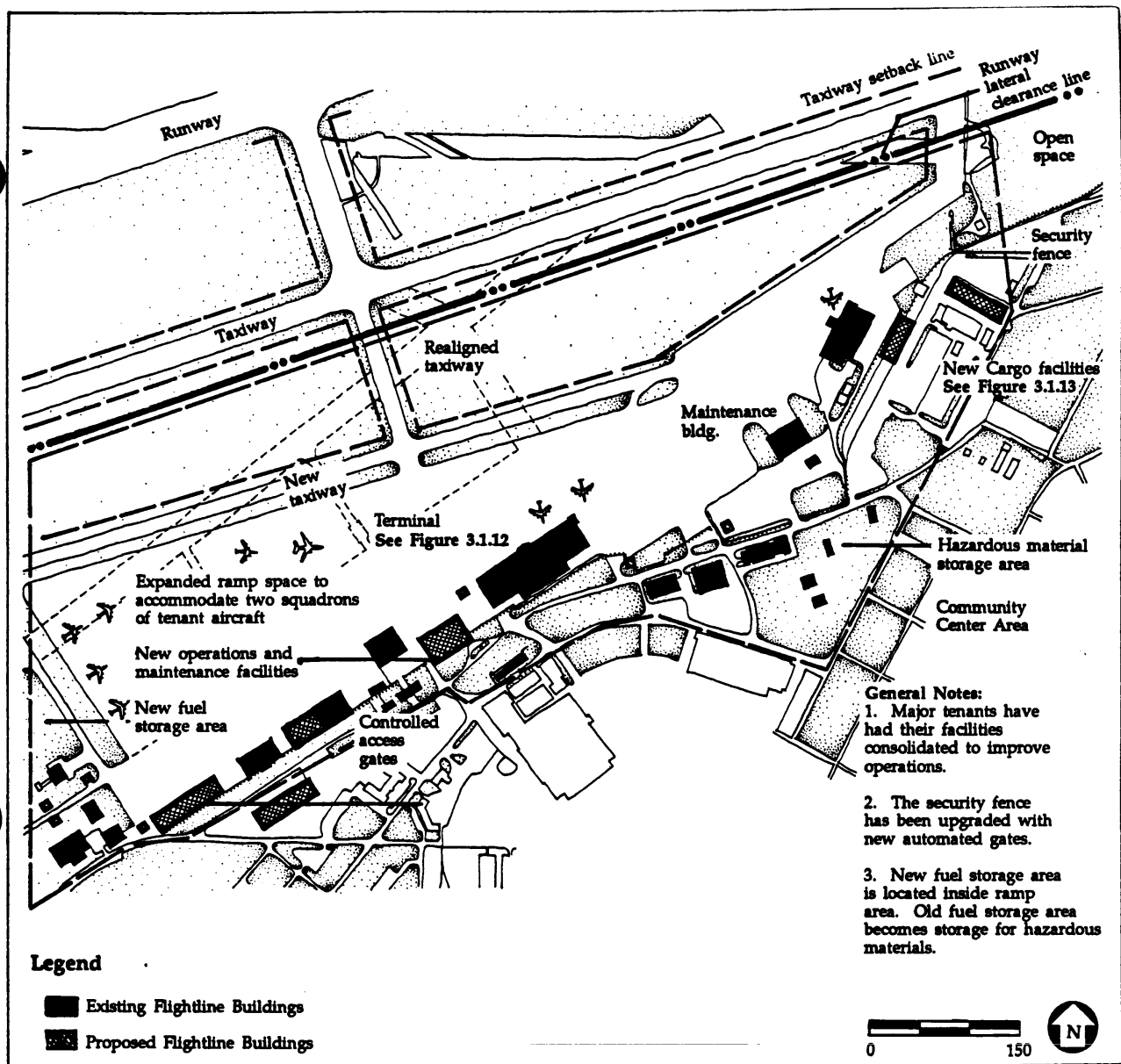


Figure 3.1.11 Area Development Plan

d. Area Development Plan

Figure 3.1.10 illustrates the Implementation of the ADR A number of new facilities have been added to increase the capabilities and flexibility of the Installations flightline area.

e. Details

The following portions of the Case Study area (Figure 3.1.12, 3.1.13) are drawn at a larger scale to illustrate the quality of detailing appropriate in an Aircraft Operations

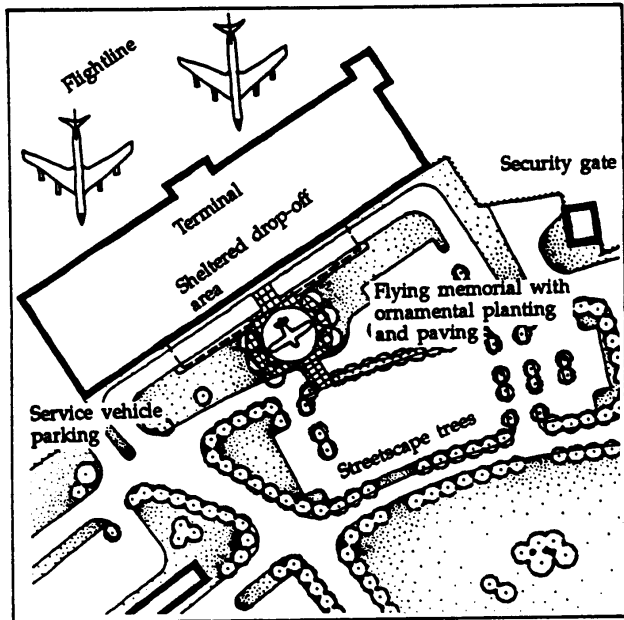


Figure 3.1.12 Operations Terminal

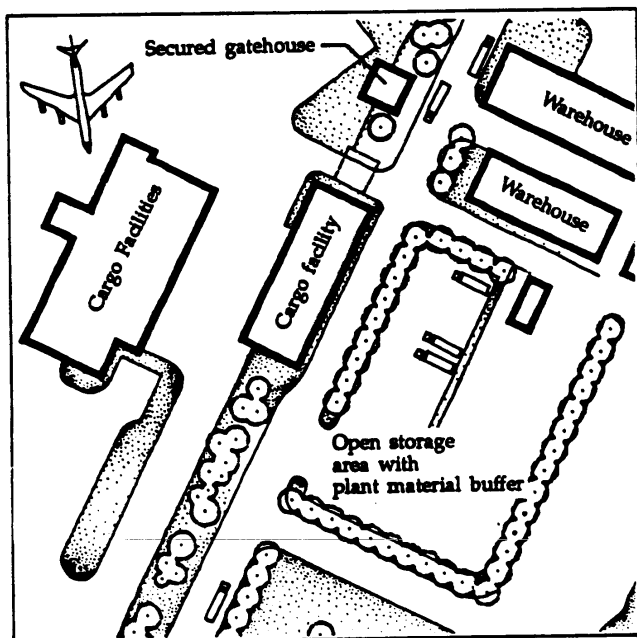


Figure 3.1.13 Cargo Facilities

Notes:

C. Industrial Areas

3.7 Industrial Area characteristics

Industrial Areas generally are composed of warehouses and maintenance shops. Facilities in these areas include Installation engineering, utility buildings, motor pools and occasionally, assembly or light-manufacturing plants (Figure 3.2.1). Industrial Areas are characterized by:

- Facilities that must be Isolated from adjacent populated areas to protect people from the noise, odor and environmental hazards associated with industrial activities;
- Delivery and service vehicles that require access to heavy shipping routes, Including truck, rail and airfields;
- A dispersed building pattern caused by the need to accommodate the operations and parking of large trucks (Figure 3.~2);
- The presence of hazardous or combustible materials that must be safely transported and securely stored;
- Inexpensive, simply constructed warehouse-type buildings;
- Unsightly open storage and lay-down areas for building materials, construction equipment, supplies, etc.

3.8 Functional Relationships

One of the functions of an Industrial Area is to serve as a shipping and receiving center. Locate open storage areas and warehouses with direct access to service roads and truck aprons. (Figure 3i3)

Legend

- Collocation Desired
- ◐ Compatible
- Incompatible

	BCE Administration	Warehouse, Supply Equip	Motor Pool	Fuel Storage	Vehicle Maintenance Shop	Open Storage
BCE Administration		●	○	○	○	○
Warehouse, Supply Equipment	●		○	○	○	○
Motor Pool	○	○		○	○	○
Fuel Storage	○	○	○		○	○
Vehicle Maintenance Shop	○	○	○	○		○
Open Storage	○	○	○	○	○	

Figure 3.2.3 Functional Relationships Table

BCE Administrative

Warehouse Supply and Equipment

Motor Pool

Fuel Storage

Vehicle Maintenance Shop

Open Storage

Figure 3.2.1 Listing of .some. Common Industrial Am Facilities

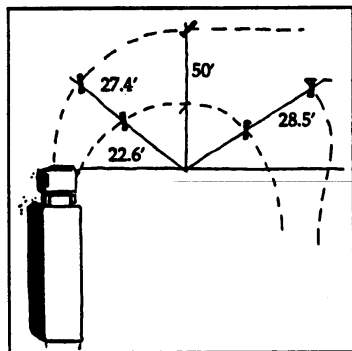


Figure 3.2.2 Semi-truck and Trailer Turning Radius

Installation engineering should have a direct relationship with warehouses for easy access to supplies. Manufacturing facilities should have immediate proximity to supply warehouses and service aprons for the efficient loading and unloading of trucks. Separate truck and passenger car traffic to improve safety.

3.9 Planning and Design Guidelines

a. General Guidelines

General planning and design guidelines should emphasize simplicity, efficiency of operations and circulation.

- Screen adjacent populated land use areas from hazardous Industrial Area activities with building setbacks and landscape buffers.
- Group Industrial offices and workshops at the perimeter of the area to screen loading and industrial activities.
- Screen open storage and staging areas from view.
- Develop a building pattern that allows for shared service aprons and efficiently accommodates the functions of truck maneuvering, and the loading and unloading of material (Figure 314).
- Fence storage areas and facilities when safety or security is an important concern. Integrate fences into the overall landscape design, as much as possible.

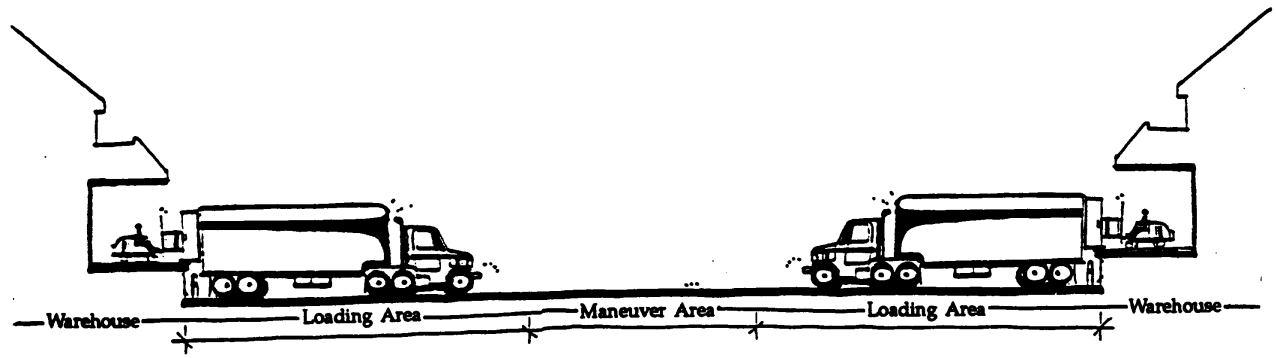


Figure 3.24 Shared Service Aprons

b. Service Circulation Guidelines

Access by trucks and service vehicles is one of the most important concerns in an Industrial Area. A well-planned service circulation pattern is essential for the proper functioning of the area as a shipping and receiving center.

- Provide efficient access for service vehicles from loading areas to heavy shipping routes.
- Use curbs and other raised barriers, such as bollards, to separate pedestrians from service vehicles.
- Separate service areas from automobile parking lots.

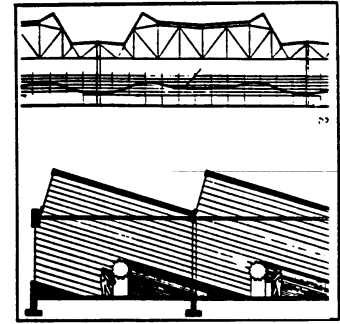


Figure 3.2.5 Skylights

c. Architectural Design Guidelines

The primary purpose of buildings in an Industrial Area is to provide inexpensive, covered work space or storage for bulk goods. These buildings generally have few windows. Recognize the cost limitations of industrial buildings and plan for simple, rectangular footprints.

- Use clerestory windows and skylights to provide daylight and reduce the need for artificial lighting to save energy (Figure 3.2.5).
- Use a limited palette of exterior materials throughout the area, to create visual harmony and compatibility
- Use similar roof forms for buildings of similar function. For example, use gabled roofs for warehouses and shed roofs for workshops (Figure 3.2.6).
- Use integral-colored masonry and concrete products to reduce painting and maintenance costs.
- Provide sufficient exterior lighting at service aprons.

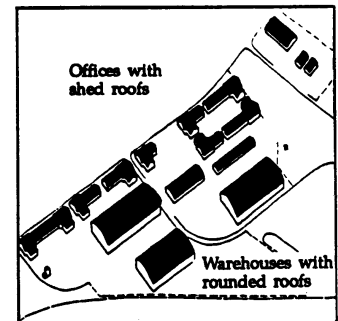


Figure 3.2.6 Consistent Roof Forms

d. Landscape Architectural Design Guidelines

Landscape design within an Industrial environment should be functional and utilitarian; Focal points within an area may receive special treatment, such as the Installation Engineering Headquarters, or any courtyards located in the building . Plant material should create a screened transition zone between the Industrial Area and adjacent populated areas.

- Screen unsightly areas (such as vehicle storage yards or lay-down areas) with fences, walls, berms and plantings (Figure 3.2.7).
- Create functional courtyards for use by workers, with shade and ornamental plantings, special paving, and quality site furnishings.
- Use street-tree planting to soften the warehouse character of the area and provide visual screening.
- Maintain the natural landscape and existing tree cover, where possible.

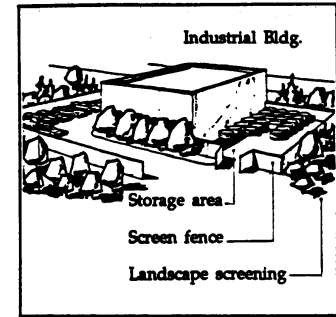


Figure 3.2.7 Screened Service Areas

3.10 Case Study

a. Introduction

Industrial facilities are located in small, noncontiguous areas throughout the installation, interfering with the future development plans of adjacent land uses (Figure 3.2.8). To improve these conditions, industrial facilities are to be consolidated into one large, contiguous area. Other Improvements required by the BCP that will affect the Industrial Area are listed below.

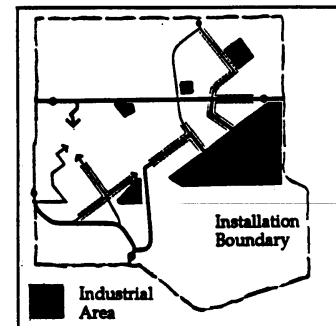


Figure 3.2.8 Existing Road Alignment and Location of Industrial Facilities

b. Comprehensive Plan Objectives

- Realign the major roads adjacent to the Industrial Area to improve vehicular circulation (Figure 3.2.9).
- Provide sufficient open storage and staging space to accommodate overflow materials from the numerous construction projects on the installation
- Establish an efficient layout capable of accommodating a significant amount of future growth.

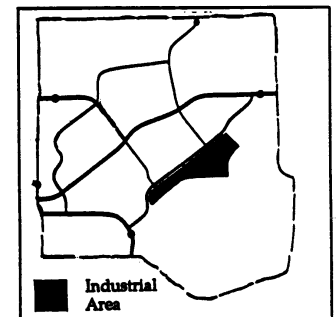


Figure 3.2.9 Realignment of Roads and Consolidation of Industrial Facilities

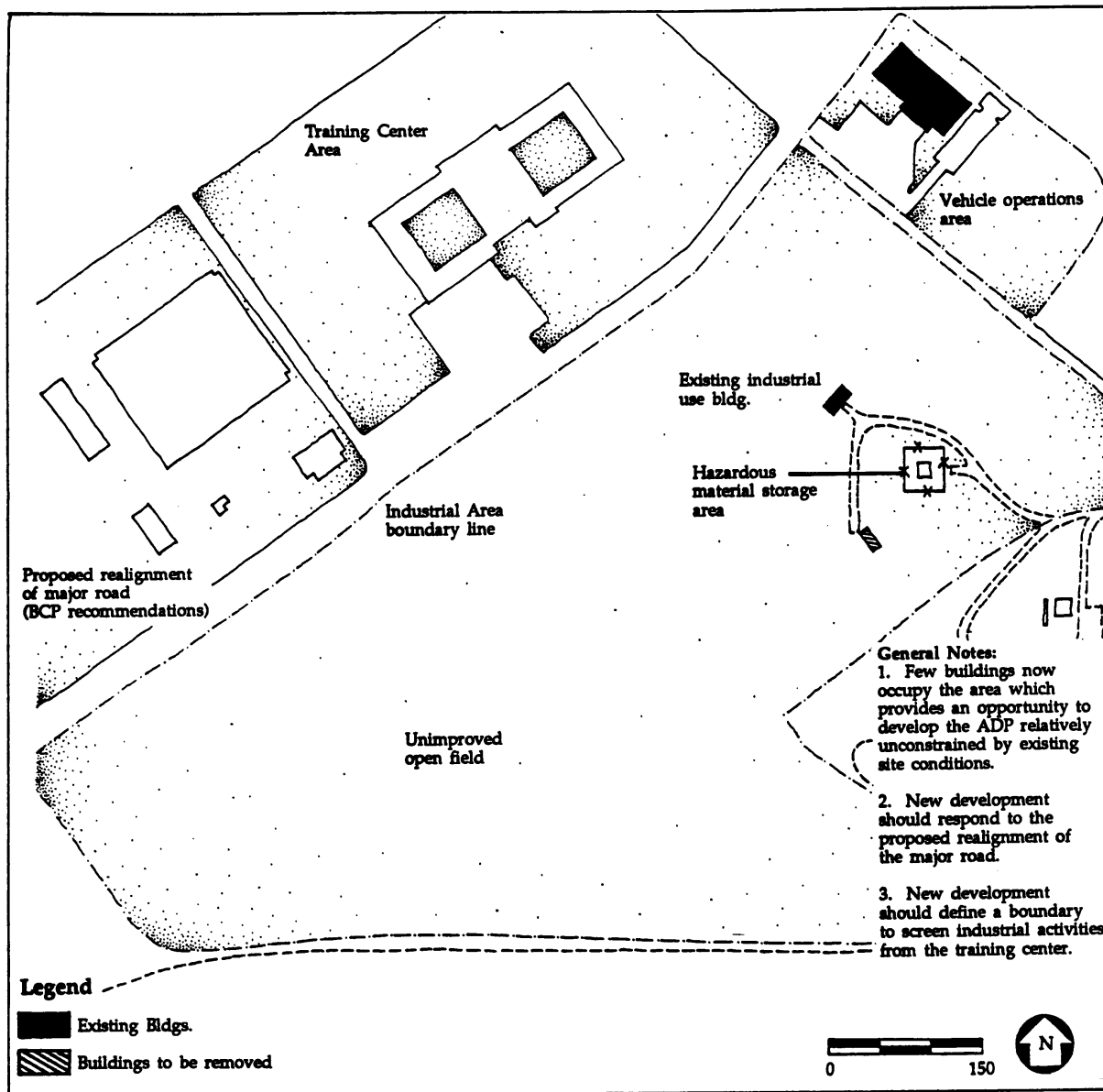


Figure 3.2.10 Existing Conditions

c. Analysis Questions

An analysis of the Case Study Area (Figure 3.2.10) should answer the following questions:

- Are there any adjacent populated land uses from which the Industrial Area should be screened?
- What Is the best way to organize the required facilities to create an efficiently functioning Industrial Area that can accommodate growth (Figure 32.11)?

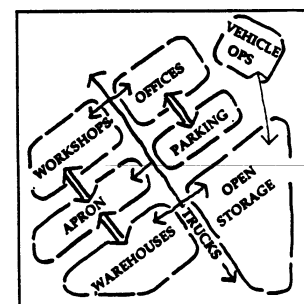


Figure 3.2.11 Functional Relationships

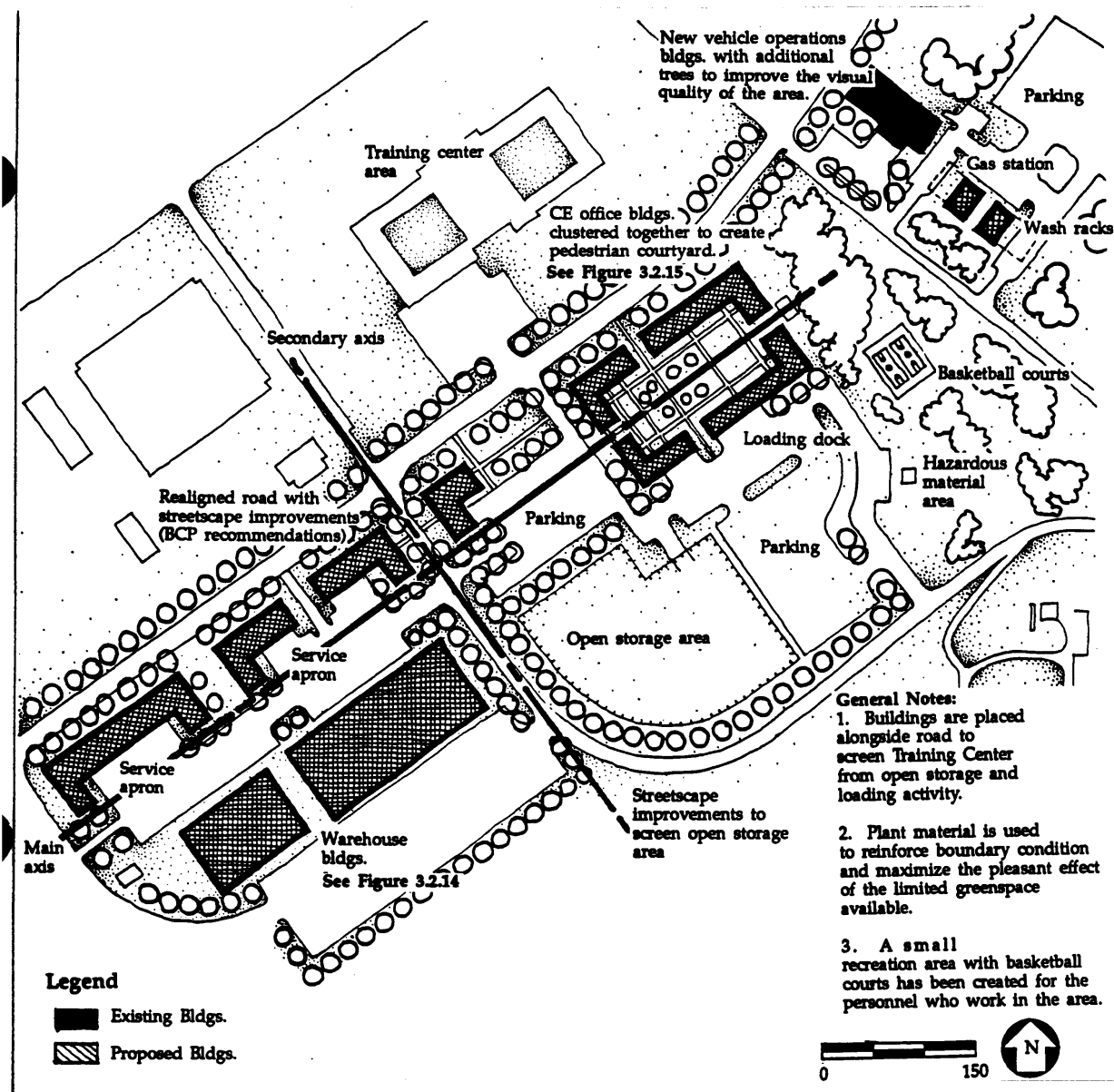


Figure 3.2.12 Area Development Plan

d. Area Development Plan

Figure 3;2;12 shows the implementation of the ADP after five years. Workshops, warehouses and industrial offices are grouped into distinct clusters adjacent to a large open storage area. The concerns raised in the Analysis Questions are addressed in the general notes in Figure 3-1-1~ In the long-range development diagram (Figure 3.-13), the open storage area has been replaced with warehouses.

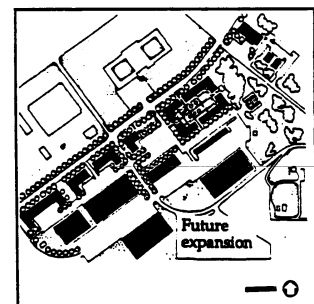
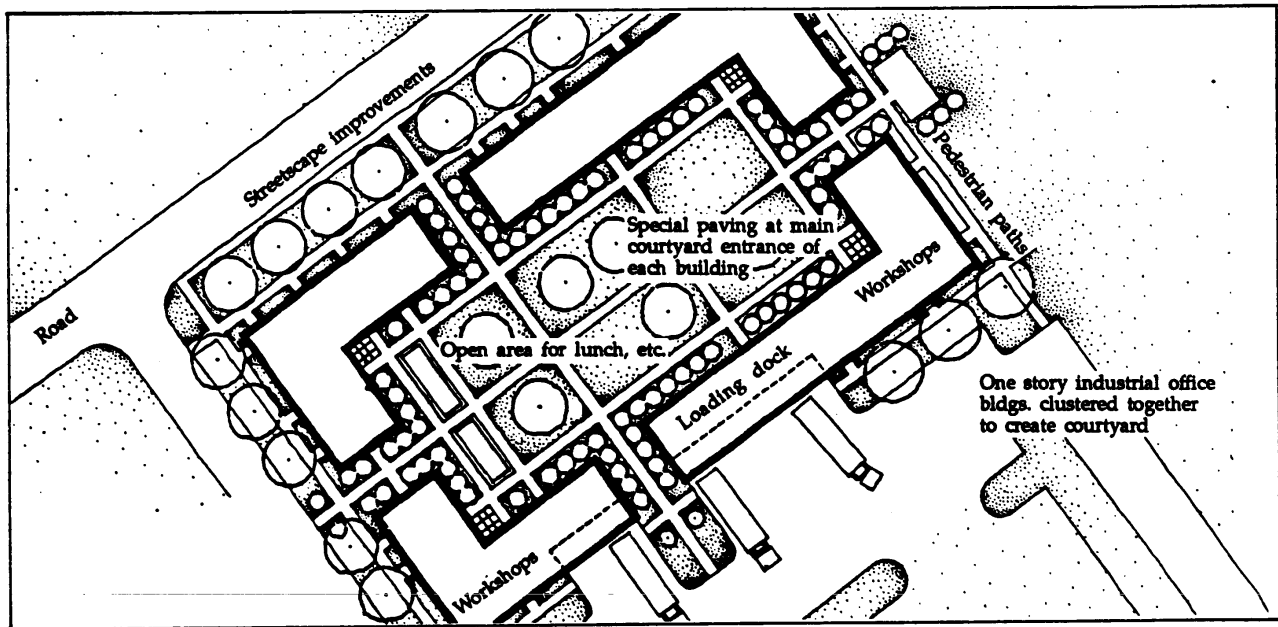
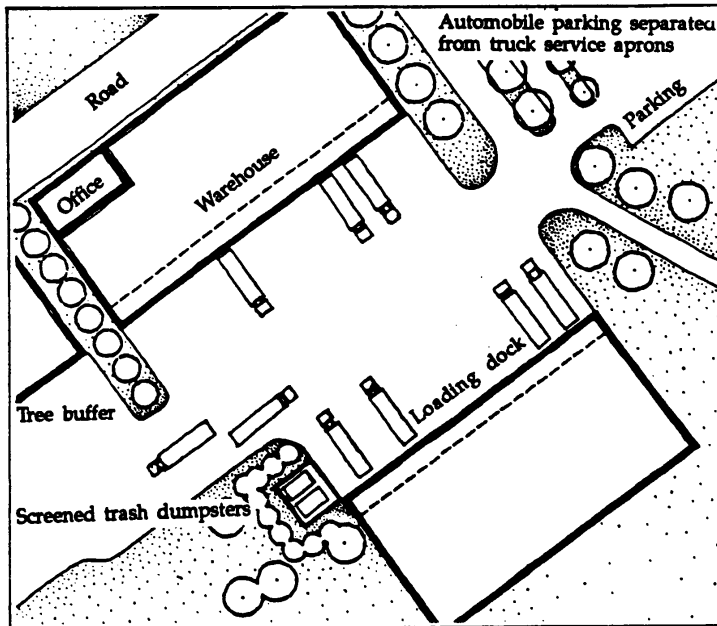


Figure 3.2.13 Long-range Development in the Area

e. Details

The following portions of the Case Study Area (Figures 3.2.14, 3.2.15) are drawn at a larger scale to illustrate the quality of detailing appropriate in an Industrial ADP.



D. Administrative Area

3.11 Administrative Area characteristics

Administrative Areas are primarily office-oriented. They typically include military command activities, office-related tenant activities, and civilian administrative functions (Figure 3.3.1). Administrative Areas are important activity nodes that are characterized by:

- A high density of population;
- A built environment comprised mostly of office buildings;
- Frequent interaction of people working in different buildings;
- A vehicular traffic pattern determined primarily by morning, noon and evening rush hour peaks;
- A high parking-to-building area ratio. The area requirements for parking cars almost always will exceed the building area requirements (Refer to AFM 86-2 for specific parking requirements);
- V.I.P. visits, and ceremonial functions in areas that incorporate the installation headquarters building.

Wing\Group Headquarters

Data Processing Center

Social Action Facilities

Law Center

Education Center

Security Operations

Figure 3.3.1 Listing of some Common Administrative Facilities

3.12 Functional Relationships

Installation Headquarters, if present, should occupy a prominent site in the Administrative Area. Locate other facilities in proximity to the Headquarters based on the command structure of the installation (Figure 3.3.2).

	Headquarters	Data Processing Center	Social Action Facilities	Law Center	Education Center	Security Operations
Headquarters	●	●	●	●	●	●
Data Processing Center	●	●	●	●	●	●
Social Action Facilities	●	●	●	●	●	●
Law Center	●	●	●	●	●	●
Education Center	●	●	●	●	●	●
Security Operations	●	●	●	●	●	●

Figure 3.3.2 Functional Relationships Table

Locate other facilities with an indirect relationship to the Headquarters, in a peripheral part of the area and supplied with their own parking areas. Place office-related tenant facilities that may seek their own corporate identity should be placed in a remote location of the area. In a remote location, they can establish their own activity node to organize future development.

3.13 Planning and Design Guidelines

a. General Guidelines

Planning and design guidelines should establish an image and corporate identity that is appropriate for the Administrative Area. Appropriate image and corporate identity will vary depending on the function of the facilities in the area. (Examples include a formal and traditional image for a Headquarters Admin. Area, and a modern and "high-tech" image for a Telecommunications Admin. Area.) An Administrative ADP should also create an environment that is functional, efficient, and attractive.

- Cluster buildings around courtyards or plazas to create a strong visual and physical connection and impression of unity (Figure 3.3.3).
- Provide landscaped designed outdoor spaces for leisure and ceremonial activities and pedestrian linkage between buildings (Figure 3.3.4).
- Develop a uniform pattern of streets, buildings, parking, pedestrian paths and open space to provide a framework for well-planned future development (Figure 3.3.5).
- Avoid a development pattern of isolated buildings surrounded by large areas of surface parking.

b. Focal Point Buildings

An Administrative Area can include the installation headquarters or other prominent buildings. A formal plan incorporated within the existing context may be appropriate to signify the Importance of these buildings. Achieve further emphasis by:

- Increasing the prominence of the focal point building by using taller elements, such as clock towers to give the impression of greater height;
- Using the building facades and overall massing to create a monumental character.

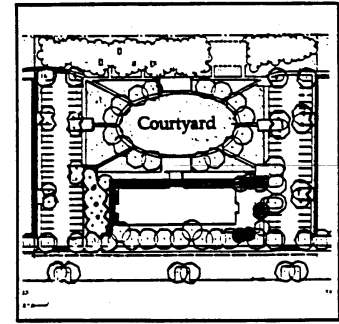


Figure 3.3.3 Clustered Buildings

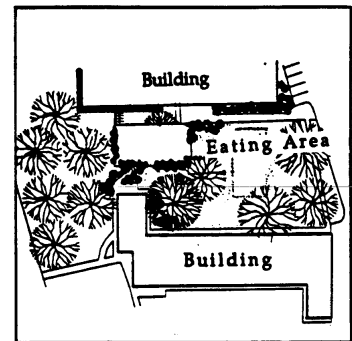


Figure 3.3.4 Landscaped Outdoor Space

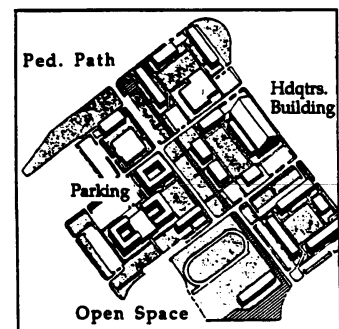


Figure 3.3.5 Uniform Pattern of Development

- Placing the buildings in a visually prominent location, such as the end or center of a strong visual axis, reinforced by formal landscaping (Figure 3.3.6);

c. Vehicular Circulation Guidelines

Establish a hierarchy of streets based on traffic patterns to minimize confusion and congestion. (Follow the guidelines in the Installation Transportation Plan and Transportation Bulletin when planning streets.)

- Differentiate the hierarchy of major roads, collector streets and local streets, with landscape design and streetscape.
 - Provide medians for plantings on major roads.
 - Provide an ordered planting of trees and shrubs along both sides of collector streets.
 - Provide an informal landscape design treatment along local streets.
- Provide service roads or alleys to separate service vehicles from other traffic.
- Provide adequate space at building service areas for access by, and maneuvering of, large trucks and service vehicles.
- Develop drop-off areas at the main entrances of large office buildings.

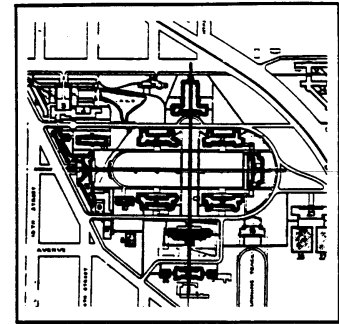


Figure 3.3.6 Axial Relationships

d, Pedestrian Circulation Guidelines

Convenient and attractive pedestrian links facilitate and encourage face-to-face communication among people working in administrative facilities. (Refer to AFM-86-2 for access requirements regarding the handicapped.) Encourage pedestrian circulation by:

- Creating well-defined pathway systems that allow safe, convenient, access between destinations (Figure 3.3.7).
- Providing arcades and covered walkways that protect people from inclement weather and encourage year-round pedestrian circulation.

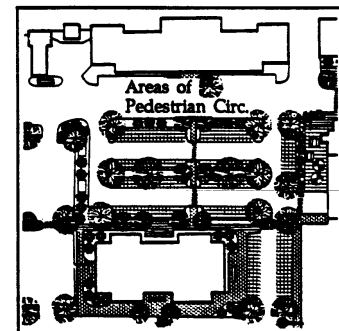


Figure 3.3.7 Pedestrian Linkages

e. Parking Guidelines

The design of parking areas requires careful attention. Poorly sited and designed parking lots detract from the aesthetics of the Administrative Area. They create a cluttered appearance, and can have a disruptive and irritating effect on circulation patterns.

- Locate parking areas so that they can be used by multiple facilities (Figure 3.3.8). If neighboring facilities have different hours of peak parking requirements, parking may be shared.
- Separate walkway systems from the vehicular traffic network to ensure safe pedestrian movement.
- Limit the number and location of entry/exit points from parking lots to ensure safety, control traffic flow, and optimize the amount of area for landscape design.
 - Provide entry/exit points that are two lanes wide.
 - Provide a minimum of 150 feet between parking lot entry points and street intersections.
- Provide adequate vehicle stacking space at parking lot turn lanes to minimize rush hour congestion.
- Designate parking areas for different users such as privately owned vehicles, government vehicles, V.I.P.s, and visitors.

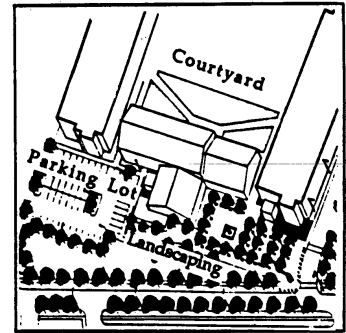


Figure 3.3.8 Parking Areas

f. Architectural Design Guidelines

Administrative Areas often contain buildings that are important because of their function, architectural character, or historical significance (for example, Installation Headquarters). New buildings or additions should contribute to the existing built environment in a positive and creative manner.

- Use an architectural style that is appropriate for the regional climate in which the Administrative Area is located.
- Create scale, mass and proportion of building elements that are compatible to adjacent buildings, public spaces, and the human scale (Figure 3.3.9).
- Use color, texture, patterns and materials that are compatible with existing significant buildings.
- Articulate building entrances with larger openings, projected coverings and porticos, to identify the point of entry and to express the significance of the building.
- Design roof forms and cornices that are similar, and of uniform height to create a unified visual appearance for the Administrative Area (Figure 3.3.10).



Figure 3.3.9 Appropriate Scale, Massing and Proportion

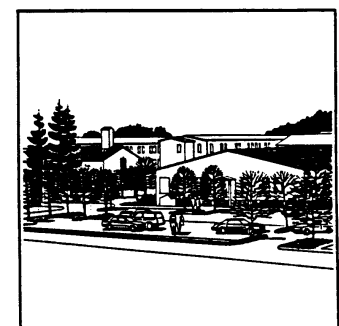


Figure 3.3.10 Unified Visual Appearance

g, Landscape Architectural Design Guidelines

Landscape design is an integral part of a successful Administrative Area Development Plan. Use plant material to accent important features and landmarks, to conserve energy-define circulation patterns and provide seasonal color.

- Use shade trees and ornamental planting to create a unified campus setting.
 - Provide similar plantings and landscape design treatment for each building in the area.
 - Use large trees throughout the area to frame spaces and unify views.
- Preserve existing trees where practical
- Create an attractive outdoor environment to encourage pedestrian activity (Figure 3.3.11).
 - Use ornamental planting, street-furniture and special paving, to highlight building approaches and entries.
 - Place planting or berms to screen and buffer unsightly service areas and parking areas.

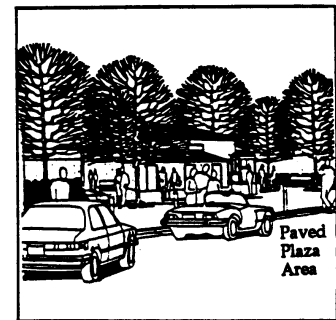


Figure 3.3.11 Attractive Outdoor Environment

3.14 Case Study

a. Introduction

As part of an installation-wide improvement program based on recommendations in the Comprehensive Plan, an Area Development Plan is required for the Administrative Area.

b. Comprehensive Plan Objectives:

- Consolidate scattered administrative functions into one contiguous area to improve operations of administrative facilities (Figure 3.3.12).
- Locate a new Mission Support Center adjacent to the Administrative Area.
- Realign major roads near the Administrative Area to improve vehicular circulation throughout the installation (Figure 3.3.13).
- Relocate existing industrial and warehouse uses that are currently within the boundaries of the Administrative Area to Industrial Areas elsewhere on the installation.
- Create a formal sense of identity and improve the relationship with the adjoining Community and Training Center Areas.

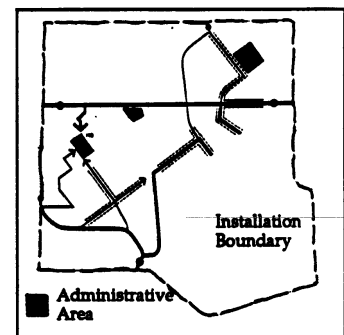


Figure 3.3.12 Existing Road Alignment and Location of Administrative Functions

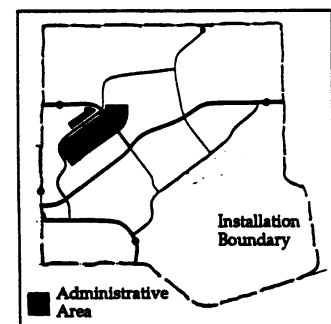


Figure 3.3.13 Realignment of Roads and Consolidation of Administrative Functions

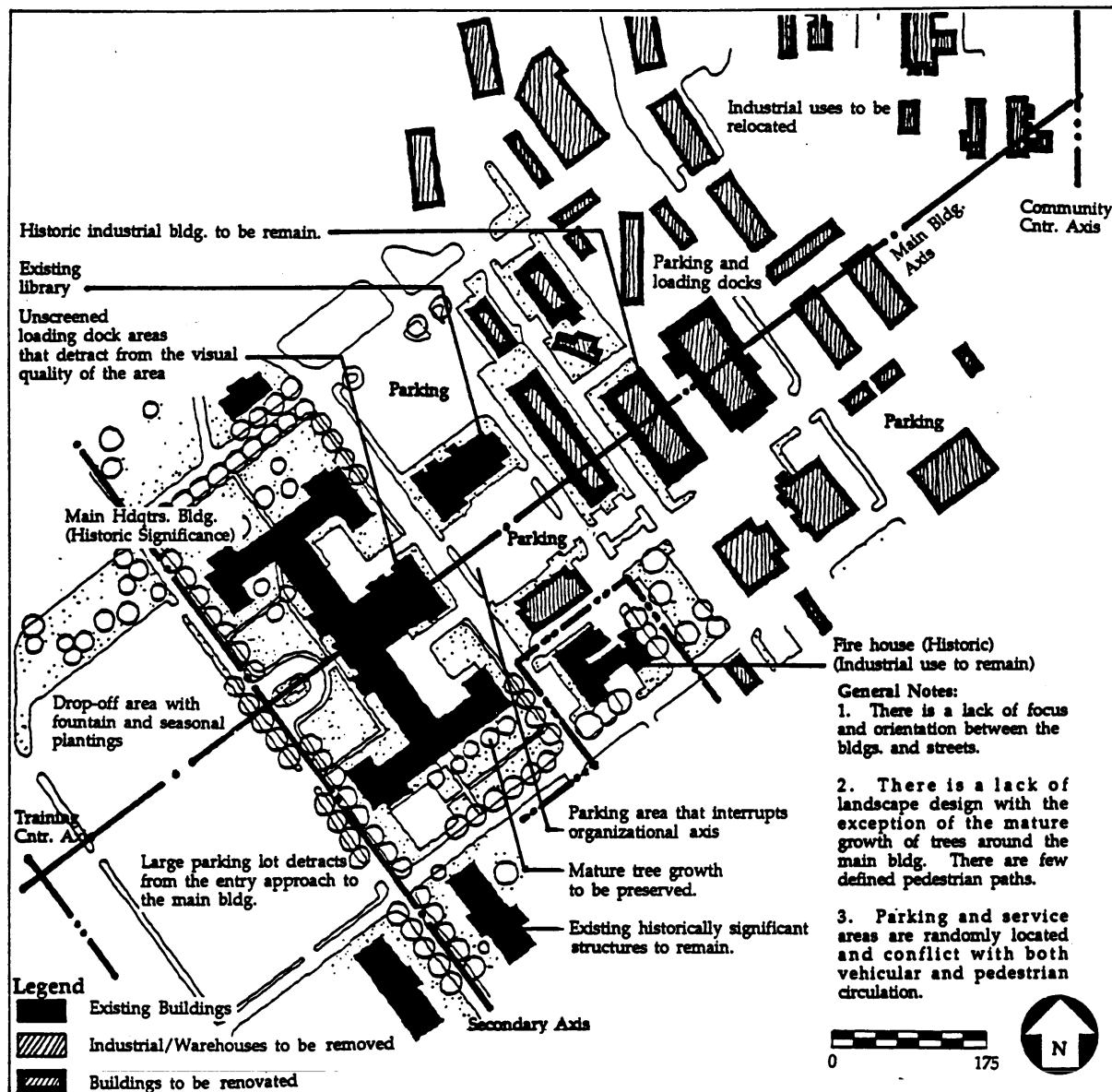


Figure 3.3.14 Existing Conditions

c. Analysis Questions

An analysis of the Case Study Area (Figure 3.3.14) should answer the following questions:

- Does the current plan reinforce the command image and formal character of the existing headquarters building (Figure 3.3.15)?
- Are their sufficient pedestrian circulation paths to the adjacent Community Center and Training Areas?

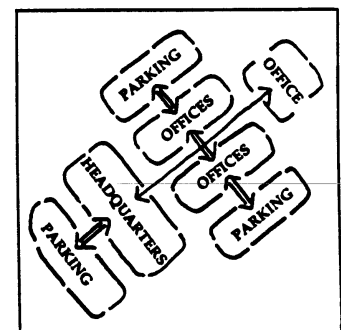


Figure 3.3.15 Functional Relationships

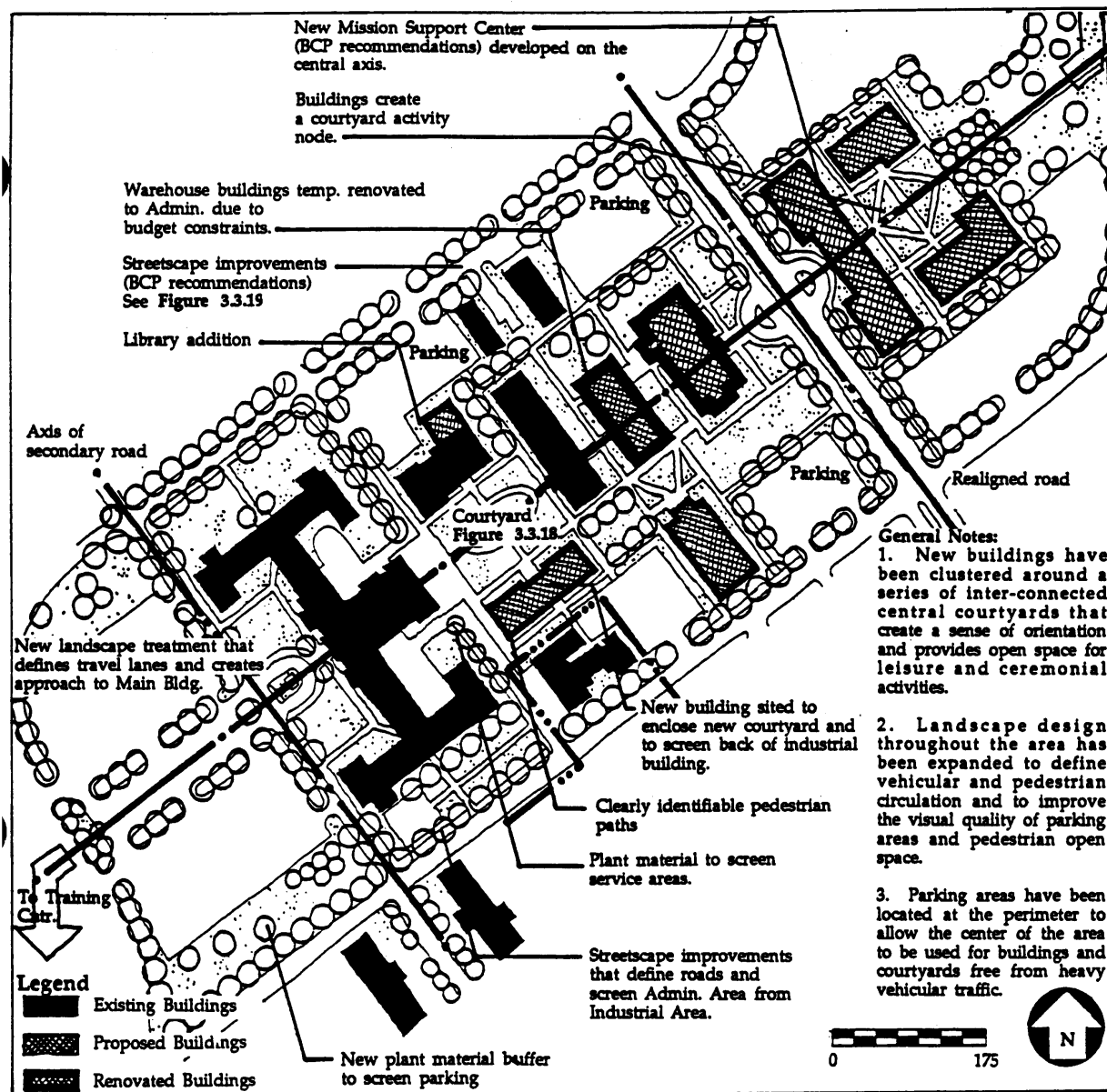


Figure 3.3.16 Area Development Plan

d. Area Development Plan

This ADP is scheduled for implementation in a five year period (Figure 3.3.16). Figure 3.3.17 shows a scenario for long-range development. Two renovated buildings have been demolished to provide space for future expansion.

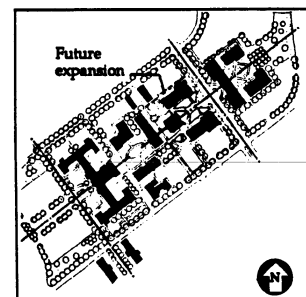


Figure 3.3.17 Long-range Development in the Area

e. Details

The following diagrams (Figures 3.3.18 - 3.3.19) depict portions of the Case Study Area at a larger scale to illustrate the level of detailing appropriate for this ADP.

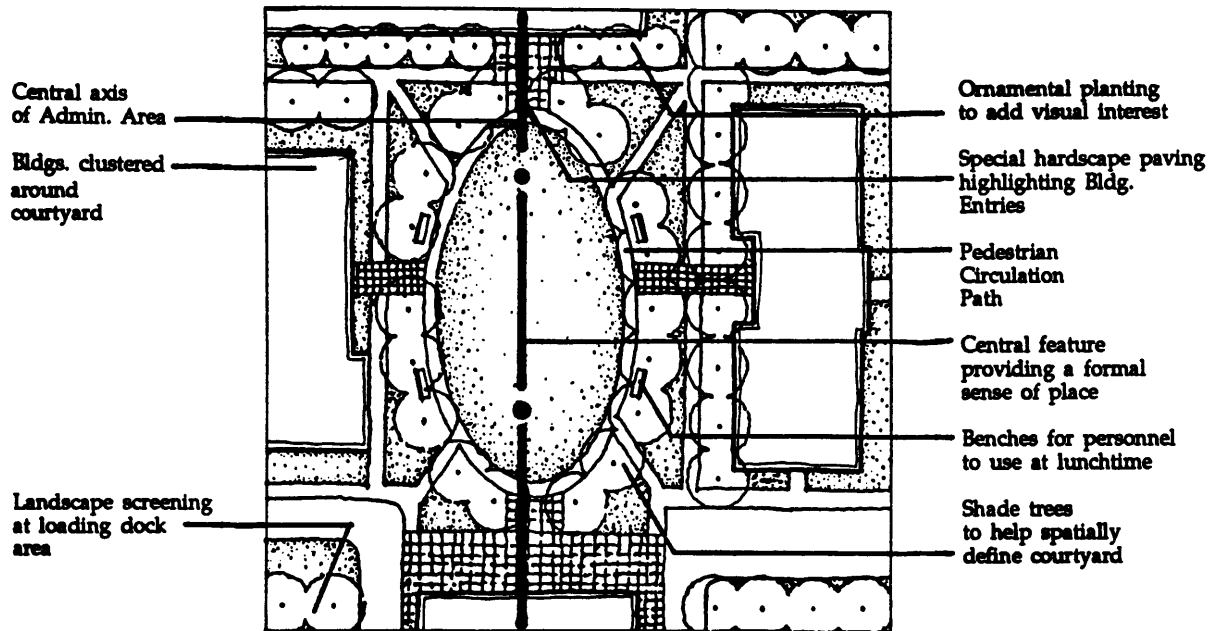


Figure 3.3.18 Typical Courtyard

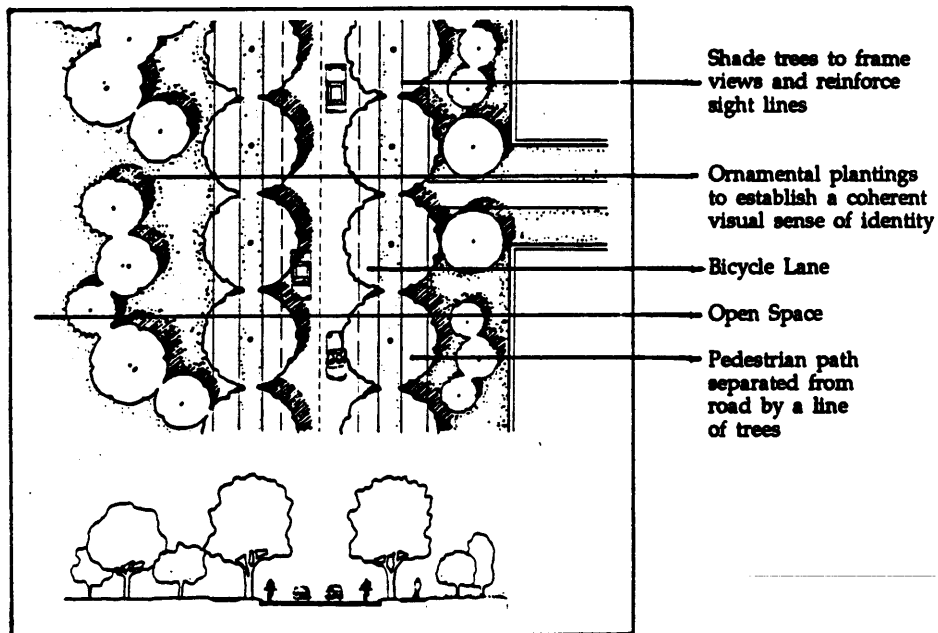


Figure 3.3.19 Typical streetscape

3.15 Private-sector Examples

The following detail from a private-sector office park (Figure 3.3.20) illustrates planning concepts that are relevant to an Administrative ADP. Although structured parking is not a viable option at most installations, the plan organization of the various components that make up an office campus (i.e., pedestrian and vehicular circulation, building placement, outdoor spaces and landscape design elements) is appropriate.

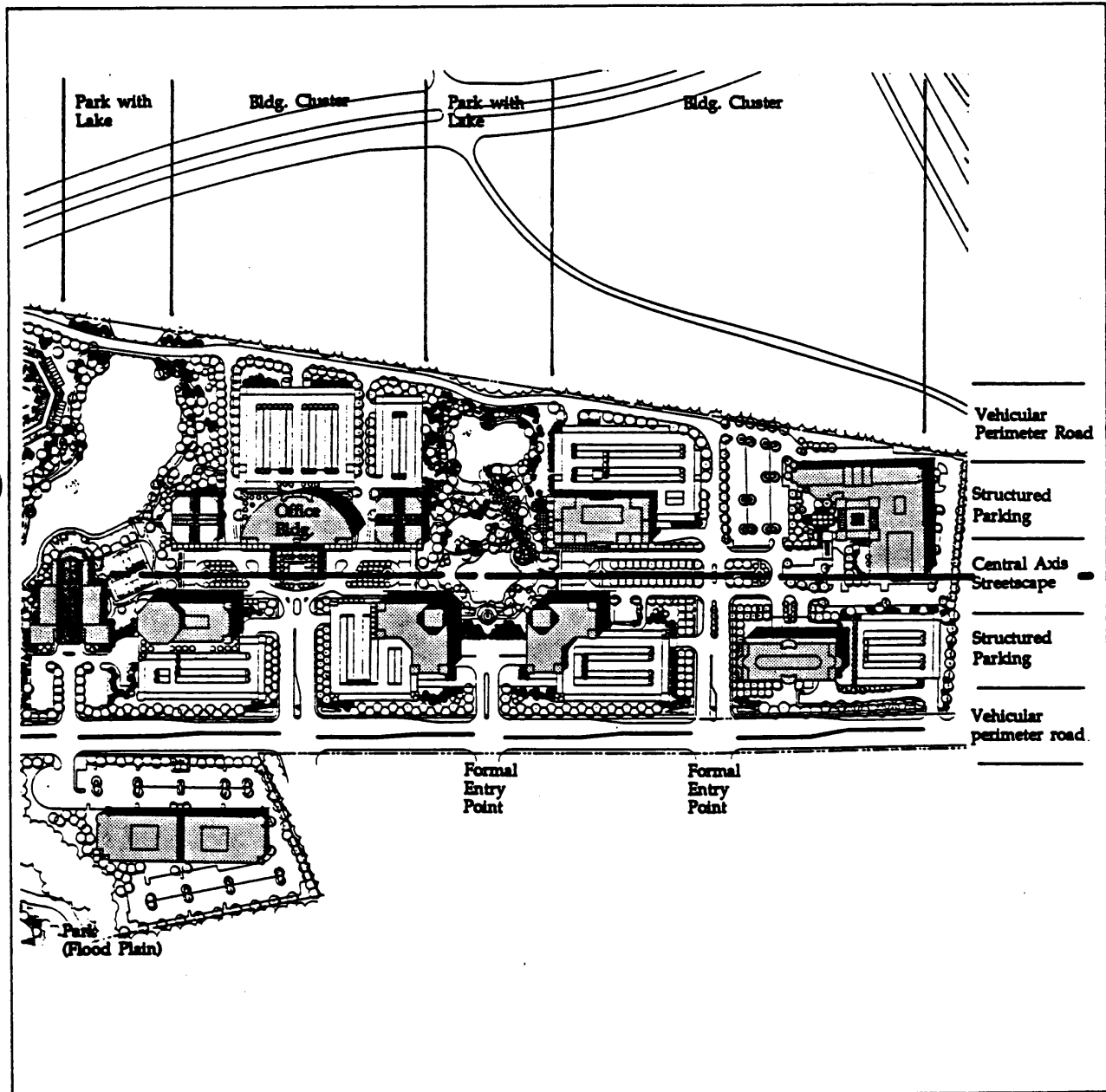


Figure 3.3.20 A Private-sector Office Park

Notes:

E. Community Center Areas

3.16 Community Center Characteristics

Community Center Areas typically incorporate an installation's major commercial and service facilities (Figure 3A.1). An attractive and effectively functioning Community Center Area improves quality of life by providing essential goods and services for the entire installation community. Community Center areas are characterized by:

- Facilities that service every member of the installation community, including off-base residents, retirees and dependents.
- Facilities that generate some of the greatest amount of traffic on the installation;
- Commissary and installation exchange facilities located in large, simple, buildings;
- Facilities that have overlapping hours of operations generating heavy daytime, nighttime and weekend activity;
- Large amounts of vehicular parking, frequently the most of any land use on the installation.

Commissary

Exchange

Post dice

Indoor Recreation Facilities

Library

Bank Credit Union

Chapel

Figure 3.4.1 Listing of some Common Community Center Facilities

3.17 Functional Relationships

Community Center Areas include commercial and service facilities frequently located around a central pedestrian area. Related commercial facilities should be sited dose to another. For example, smaller commercial facilities should be dose to the exchange and commissary for the convenience of customers (Figure 3A2).

Legend								
●	Collocation Desired							
◐	Compatible							
○	Incompatible							
		Commissary	Exchange	Post Office	Indoor Rec. Facilities	Library	Bank Credit Union	Chapel
Commissary								
Exchange		●						
Post Office		◐	◐					
Indoor Rec. Facilities		◐	◐	◐				
Library		○	○	◐	◐			
Bank Credit Union		◐	◐	◐	◐	◐		
Chapel		◐	◐	◐	○	○	●	

Figure 3.4.2 Functional Relationships Table

Similar in function to a suburban shopping center in the private-sector, the exchange and commissary act as the "anchors" for the entire commercial area.

Cluster service-oriented facilities, such as the post office, together near the commercial facilities. Locate facilities, such as the chapel and child care center, away from the central pedestrian area.

3.18 Planning and Design Guidelines

a. General Guidelines

Planning guidelines should integrate the diverse buildings that frequently comprise a Community Center Area into a coherent and attractive environment that serves the installation community efficiently.

- Cluster buildings to create a single, central activity node where the proximity of facilities enables individuals to park their cars and complete several errands at once (Figure 3A~).
- Create a pedestrian mall to provide a uniform, attractive front for all facilities to face.
- Develop a unified, spirited and dynamic image for the area that can accommodate diverse styles of architecture and building signage (Figure 3.4.4). (Refer to AFP 8840 for signage standards.)
 - Use color to add visual interest to the area.
 - Provide a coordinated system of landscape design including high-quality street-furniture to create a unified outdoor image.
 - Use similar building materials (such as brick) for all buildings in the area.
- Provide a separate system of bike and pedestrian paths to adjacent areas.
- Provide adequate lighting for night time use of parking and pedestrian areas.

b. Vehicular Circulation Guidelines

Controlling vehicular circulation is crucial to the success of a Community Center Area. In addition to passenger automobile traffic, a large volume of service vehicle traffic must be integrated into the transportation plan to avoid frequent congestion and minimize the potential for accidents.

- Locate service loading docks away from main pedestrian entrances and parking areas (Figure 3A.5).

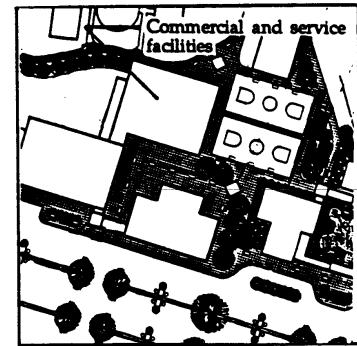


Figure 3.4.3 Clustered Community Center with Pedestrian Mall



Figure 3.4.4 Pedestrian Mall Environment

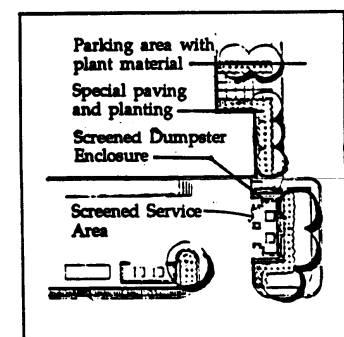


Figure 3.4.5 Loading Docks

- Avoid non-perpendicular or multiple (more than two) street intersections because of safety risks.
- Provide dedicated bicycle trails and conveniently located bike racks for secure parking.

c, Pedestrian Circulation Guidelines

Community Center Areas function most effectively when they are pedestrian-oriented environments that allow people to walk between facilities, instead of driving. This reduces traffic congestion, air pollution and energy consumption. The Community Center Area should feature a variety of pedestrian spaces for the convenience and enjoyment of people using these facilities.

- Introduce pedestrian amenities into the area, such as arcades, plazas, seating areas, public telephones, restrooms, canopies, clock towers and trellises (Figure 3.4.6).
- Consider enclosing the mall in areas of extreme weather conditions.
- Provide special paving at pedestrian areas and crosswalks to clearly define circulation paths (Figure 3A.7).

d. Parking Guidelines

The large area required for vehicular parking to accommodate Community Center facilities, makes parking an important concern when preparing the ADR

- Coordinate parking lot design with pedestrian location patterns in the area.
- Locate parking areas that can be shared by neighboring facilities with different hours of operations to reduce the amount of parking (Figure 3A.8).
- Design a connected series of smaller parking lots, rather than a large continuous one, to avoid the unsightly appearance of one vast parking lot.
- Avoid parallel parking on streets.

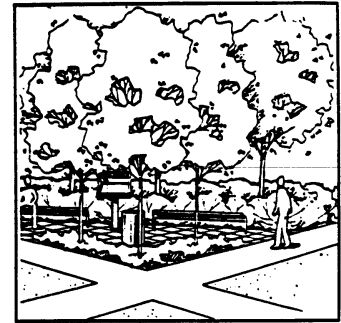


Figure 3.4.6 Street-furniture



Figure 3.4.7 Pedestrian Circulation Paths

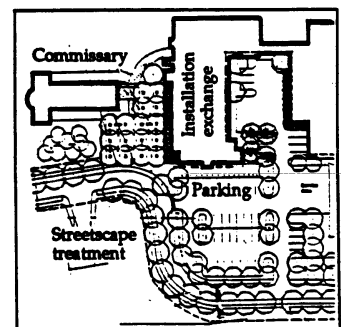


Figure 3.4.8 Shared Parking Areas

- Provide walkway systems to clearly direct people from their cars to buildings and pedestrian areas (Figure 3.4.9).

e. Architectural Design Guidelines

Buildings in Community Center Areas often display a conflicting diversity of architectural styles, footprint sizes and materials. Architectural design guidelines should be of a general nature that allow for differences between individual buildings and still create an architecturally coherent environment.

- Establish uniform building heights for buildings in the area. Allow larger buildings, such as the installation exchange, commissary and theaters, to have greater height because of structural, spatial and functional demands.
- Define main building entrances with similar features throughout the area, for example recessed or larger openings, canopies, overhangs, and special lighting (Figure 3.4.10).
- Create building accents of tall architectural elements, (such as towers), to identify the Community Center from nearby locations (Figure 3.4.11).
- Site buildings to create and define the pedestrian mall.
- Provide courtyards between buildings near food service facilities to accommodate outside eating areas.

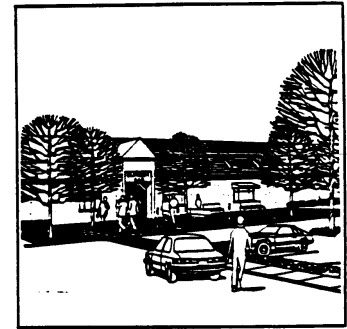


Figure 3.4.9 Walkways

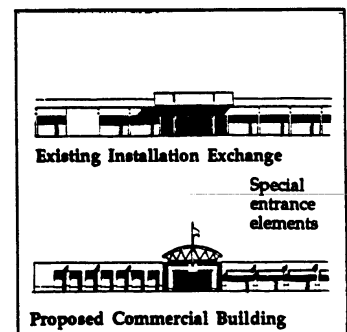


Figure 3.4.10 Special Entrance Elements



Figure 3.4.11 Building Heights

f. Landscape Architectural Design Guidelines

Proper landscape design is critical in Community Center Areas because of the intensive pedestrian and automobile traffic in the area. Landscape design serves to visually define roads, pedestrian and bike paths and soften the visual impact of large parking areas.

- Provide pedestrian areas with a coordinated and balanced mix of special paving, plant material, lighting, and other site furnishings.

- Provide shade trees and landscaped islands to breakup large parking areas.
- Screen unsightly utility boxes and dumpsters with planting, fences or walls, that are compatible with the building architecture (Figure 3.4.12).
- Provide a coordinated system of site furnishings, based on an overall design scheme that relates to the architectural character of the installation
- Ensure that site furnishings, such as drinking fountains, tables and telephone booths, meet requirements for the handicapped.
- Define vehicular circulation paths with trees and landscaped islands.

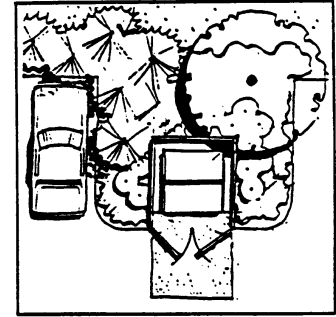


Figure 3.4.12 Landscape Screening

3.19 Case Study

a. Introduction

As part of an installation-wide improvement program based on recommendations in the Base Comprehensive Plan, an Area Development Plan is required for the Community Center Area. The following BCP objectives are important to the Community Center ADR

b. Comprehensive Plan Objectives:

- Consolidate scattered commercial and service community facilities into one contiguous area around the existing installation exchange building for the convenience and service of the installation community (Figure 3.4.13).
- Provide an addition for the installation exchange building.
- Locate a new sport store, indoor recreation facility, and theater to the core Community Center Area.
- Realign existing streets to improve the linkages between the Community Center Area and adjacent areas, including residential neighborhoods and training center dormitories (Figure 3.4.14).
- Relocate the Auto Hobby Shop away from the Community Center Area, and restore the current site.

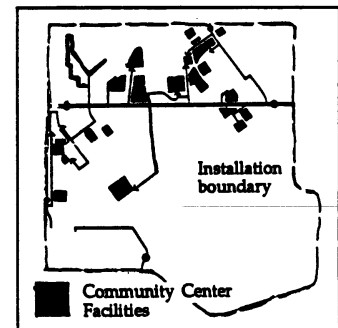


Figure 3.4.13 Existing Road Alignment and Location of Commercial and Service Facilities

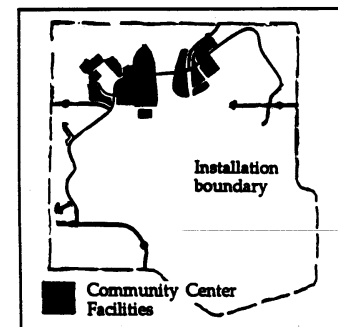
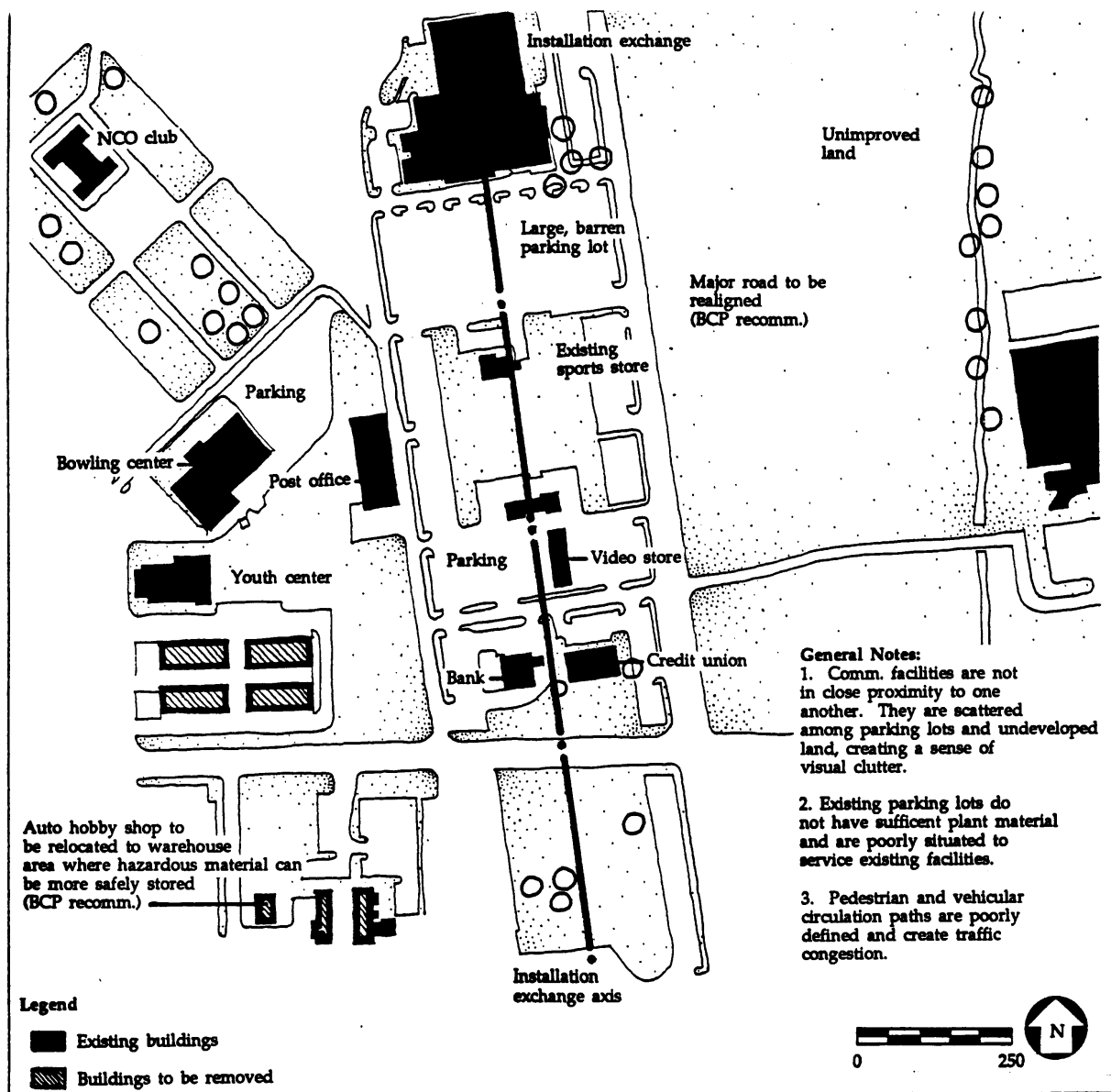


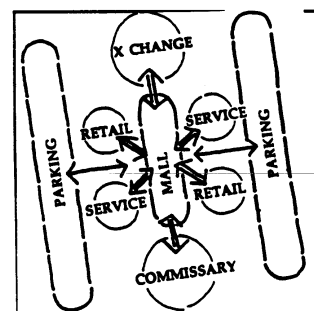
Figure 3.4.14 Realignment of Roads and Consolidation of Commercial and Service Community Facilities



c. Analysis Questions

An analysis of the Case Study Area (Figure 3.4.15) should answer the following questions;

- Is there a visual focus or pattern of development that can be used to structure growth (Figure 3A.16)?
- Are existing roads and paths sufficient for the large volume of traffic found in a Community Center?
- Are existing parking lots landscaped and properly situated to serve multiple facilities?



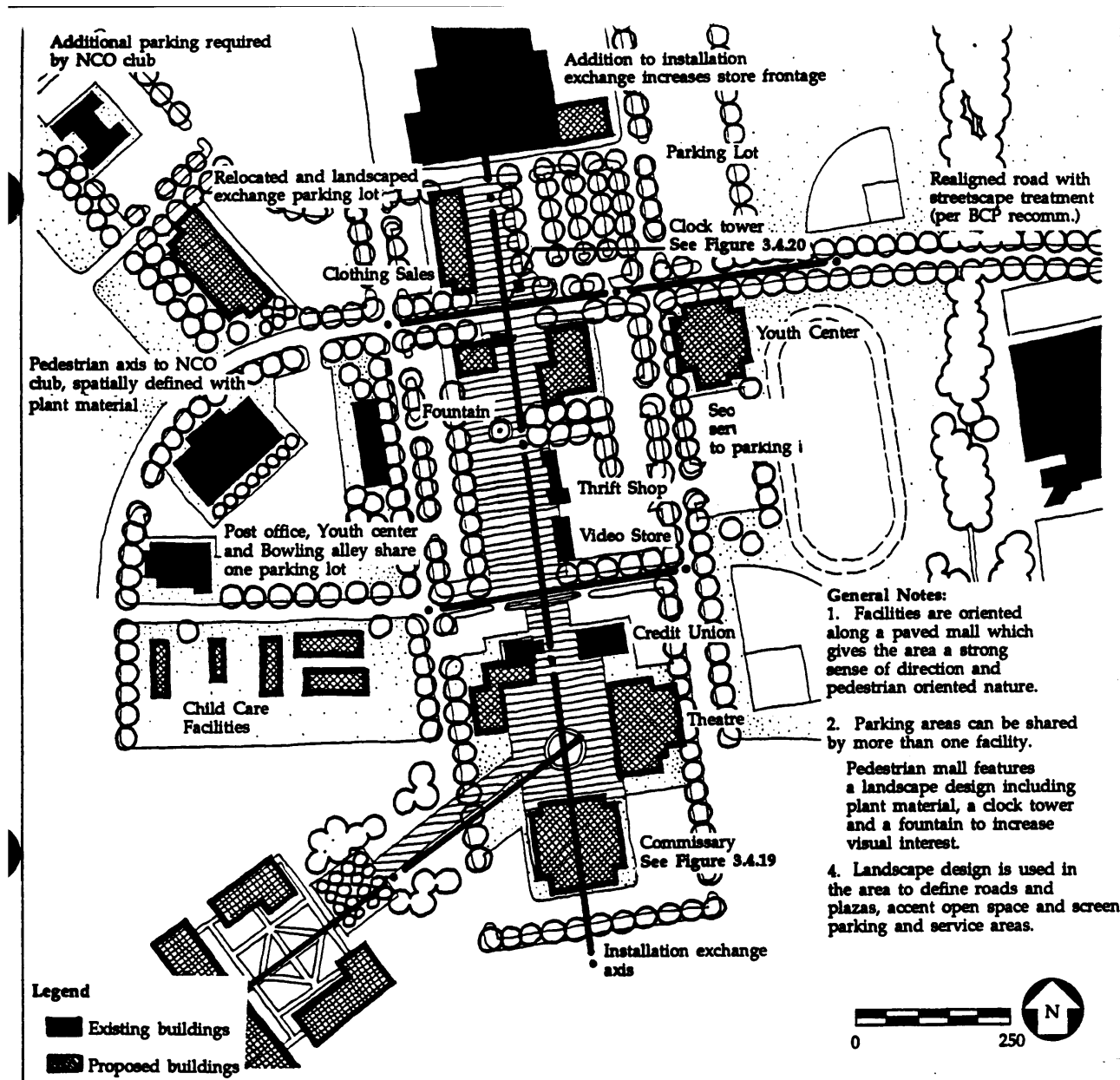


Figure 3.4.17 Area Development Plan

d. Area Development Plan

The majority of the ADP (Figure 3.4.17) is planned according to a five-year implementation period. Figure 3.4.18 illustrates the ADP's proposal for long-range development in the Case Study Area. The need for additional retail is anticipated and future buildings will be sited to reinforce the existing pedestrian mall.

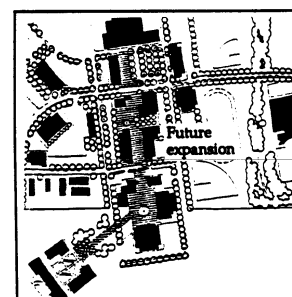


Figure 3.4.18 Long-range Development in the Area

e. Details

The following portions of the Case Study Area (Figure 3A.19 - 3A.20) are drawn at a larger scale to illustrate the quality of detailing appropriate in a Community Center ADP.

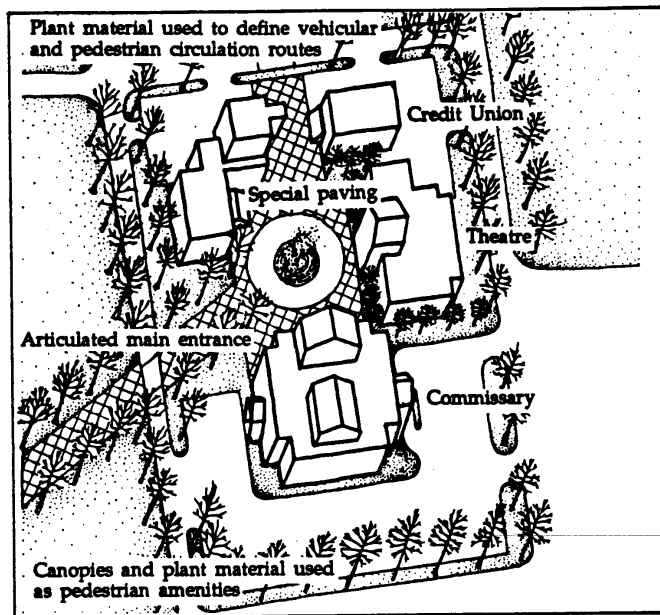


Figure 3.4.19 An Activity Node

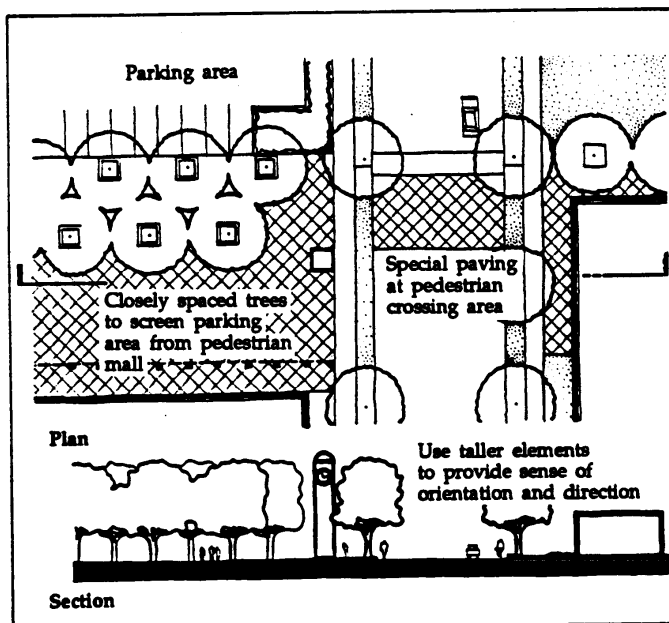


Figure 3.4.20 Intersection of Pedestrian Mall and Typical Road

3.20 Private-sector Examples

The following plan for a local retail center (Figure 3.4.21) illustrates planning issues that are relevant to a Community Center ADP.

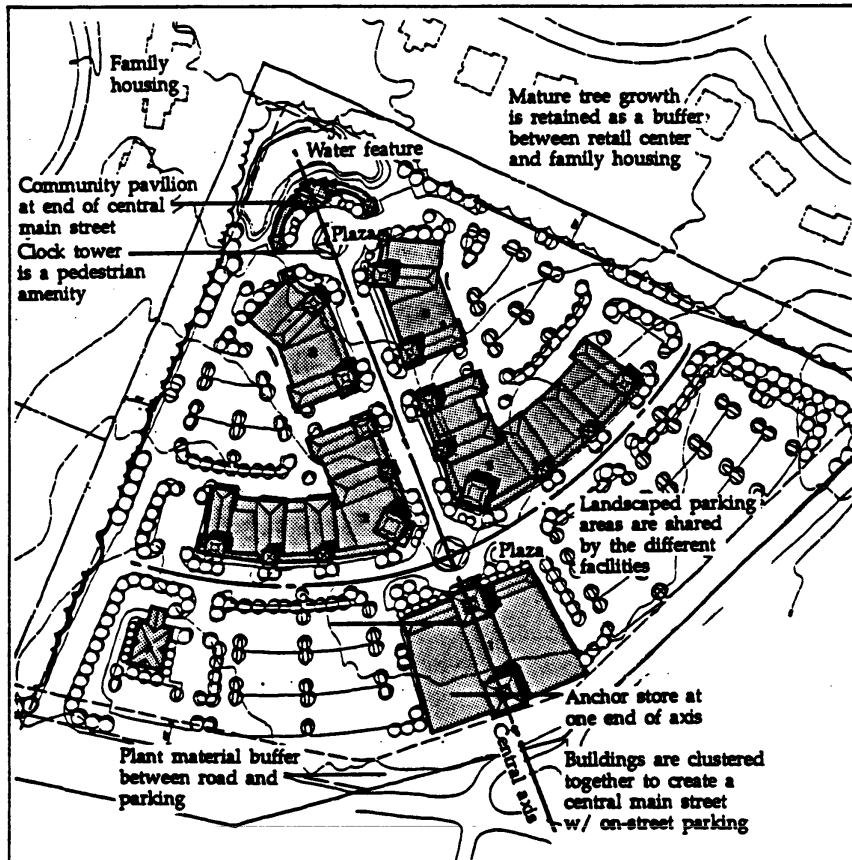


Figure 3.4.21 Private-sector Retail Center

E. Family Housing Areas

3.21 Family Housing Area Characteristics

Family Housing Areas consist of attached and detached residences for officers, enlisted persons, and their families. These housing areas are similar to suburban civilian housing developments. Facilities in the area include family housing, temporary lodging facilities and related support facilities (Figure 3.5.1). These areas are characterized by:

- Residential neighborhood scale and theme;
- A peaceful and quiet atmosphere, punctuated with informal gathering and relaxation spaces;
- Playgrounds and ball fields for children;
- Adaptable housing types that can accommodate the frequent change in tenants and maintain a consistent sense of community;
- Privacy needs of individual residents;
- The repetition of identical housing units along a curvilinear or grid road network;
- A division of the area into neighborhoods structured according to rank.

Family Housing

Temporary Lodging Facilities (TLF)

Temporary Lodging Facilities Support

Figure 3.5.1 Listing of Family Housing Facilities

3.22 Family Housing Community Plans

There are two separate planning documents which can be prepared to outline improvements for Family Housing Areas, the Housing Community Plan, and the Area Development Plan. These plans are different in the scale of their study, but have the same overall goal. Both plans are designed to provide military families with homes and communities that are comparable in design and amenity to current private-sector housing. Both planning documents should:

- Serve as a guide in bringing the entire community up to contemporary standards;
- Identify all improvements to the overall community area;
- Function as a programming guide for the development of specific projects as each plan is implemented over time and;

- Prepare a phasing plan to provide for the orderly and economical Implementation of those improvements.

A Family Housing Community Plan is developed at a more detailed scale than an Area Development Plan. A Housing Community Plan will identify all interior and exterior improvements required of each housing unit and define construction costs. An ADP has a broader scale of study, (as explained in Chapters 1 and 2). It deals with the Housing Area in its entirety with less emphasis placed on individual homes.

While there is some overlap in the two studies, the general difference in the two plans is that a Housing Community Plan studies individual homes within the context of the Housing Area, and an ADP studies the Housing Area within the context of the overall installation. This Chapter is designed as a guide for ADPs, but is also relevant to HCPs.

3.23 Functional Relationships

Large housing areas can be planned more effectively if divided into smaller units designated as neighborhoods (Figure 3.5.2). Open space and recreation areas should be provided for each neighborhood. Each neighborhood should have a collector street to carry traffic from private drives to major roads. Neighborhood support facilities should be located on the major road in the area. Individual residences, which are grouped closely together for convenience, should still retain a sense of privacy.

	Family Housing	Support Facilities	Open Space	Parks
Family Housing	●	●	●	●
Support Facilities	●	●	●	●
Open Space	●	●	●	●
Parks	●	●	●	●

Figure 3.5.2 Functional Relationships Table

3.24 Planning and Design Guidelines

a. General Guidelines

General guidelines for a Family Housing Area should emphasize the existence of Individual neighborhoods to strengthen the residents' sense of belonging to a community. Most existing Family Housing Areas already contain a basic pattern of neighborhood development based on rank. In general, people relate more easily to small clusters of homes than to large undifferentiated housing tracts.

- Allow a sense of identification and belonging to be developed by each resident on the levels of the home, the street, and the neighborhood.
- Provide sidewalks to accommodate pedestrian movement between neighborhoods and adjacent areas. Include curb cuts for handicapped access and baby strollers (Figure 3.5.3).

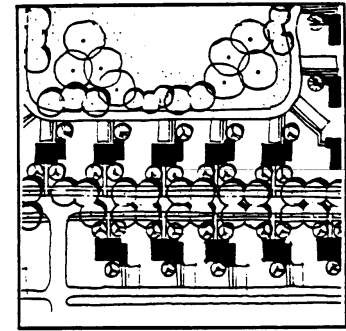


Figure 3.5.3 Sidewalks and Paths

b. Traffic Patterns

Controlling traffic flow is one of the most powerful tools for shaping individual neighborhoods in a Family Housing Area. Design guidelines should prevent streets and parking from becoming the dominant elements in the area by providing an attractive streetscape treatment of trees, shrubs and street-furniture that reinforces the residential scale and theme of the community.

- Define entry points to neighborhoods with signs, plantings, accent lighting and special paving.
- Create a hierarchy of street widths to control traffic and define individual neighborhoods (Figure 3.5.4).
 - Use collector streets to carry traffic from a cluster of local streets to the Installation's main roads.
 - Restrict major roads to the periphery of housing areas and provide landscape buffers to screen residences from noise and headlight glare (Figure 3.5.5).
- Limit private streets to 1-15 houses to reduce traffic flow.
- Use special paving materials to highlight pedestrian crosswalks and bicycle lanes.
- Provide sufficient off-street parking for residences.

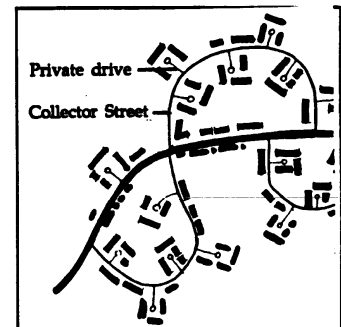


Figure 3.5.4 Diagram Explaining Road Hierarchy in a Typical Family Housing Area

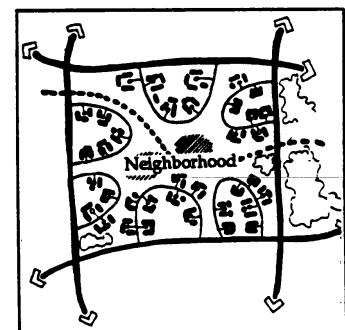


Figure 3.5.5 Major Roads

- Use "neck-downs" (Figure 3.5.6) or islands to restrict traffic flow on busy residential streets and to provide areas for additional landscape design.

c. Open Space and Recreation Areas

Open space and recreation areas in housing communities provide essential opportunities for residents to meet and gather, and for children to play.

- Develop a network of parks in the housing area based on the age groups of children in the area.
 - Provide "tot lots" for the 1-5 age group with seating areas for adults. These parks should be plentiful to decrease the number of times people have to cross the street to reach them.
 - Provide parks for children in the 5-12 age group with recreational activities such as monkey bars and play forts. There should be two or three parks of this type in each neighborhood.
 - Provide basketball courts and tennis courts for people 12 and older. Locate one in each neighborhood.
- Develop common ground into community open space and recreation areas.
- Provide semi-private or screened private outdoor spaces for each house (Figure 3.5.7).
- Create walkway and bikeway trails to tie neighborhoods together (Figure 3.5.8).
- Develop specialized facilities that take advantage of the Installation's regional setting and climate. specialized facilities could include such activities as boating and fishing, ice skating or snowmobile trails.)

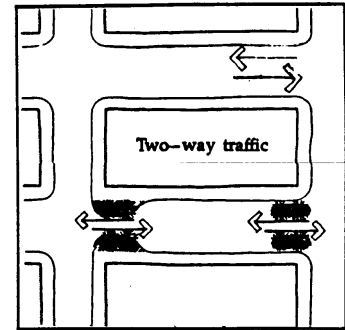


Figure 3.5.6 "Neck-downs"

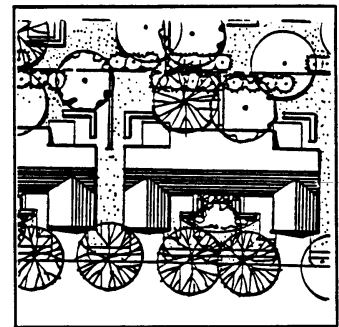


Figure 3.5.7 Private Outdoor Spaces

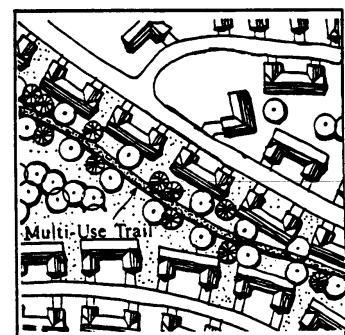


Figure 3.5.8 Walkways

d. Architectural Design Guidelines

On many installations, existing residences have reached an age where remodeling is required. Remodeling programs, such as Housing Community Plans, should take place on a whole neighborhood basis to provide a systematic approach to improvement. The goal of these programs should be to provide neighborhoods for the military that are comparable to those in the private- sector.

- Use building orientation, the placement of windows and plant material to optimize the use of passive solar energy.
- Add plant material around unit exteriors as a cost effective method to improve neighborhood appearance. (Figure 3.5.9)
- Provide storage areas in remote locations for outdoor equipment, boats and trailers.
- Recommend improvements that require limited upkeep to maintain the appearance of the area.

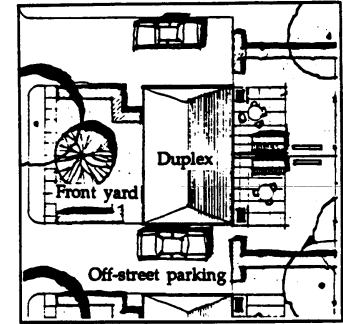


Figure 3.5.9 Appropriate Landscape Design

e. Landscape Architectural Design Guidelines

Landscaping materials in a Family Housing Area can include shrubs, trees, decorative fencing, earth sculpturing, rocks, gardens and neighborhood identification signs.

- Use landscape design to emphasize individual neighborhoods within the Family Housing Area.
 - Provide plant material at entry points to neighborhoods and housing clusters to provide a good first Impression of the area and help install a sense of pride for area residents.
 - Use plant material to define boundaries between Individual neighborhoods and homes and to create shared open space (Figure 3.5.10).
- Preserve mature wooded areas at the perimeter of neighborhoods to create shaded open spaces and a pleasing visual appearance (Figure 3.5.11).

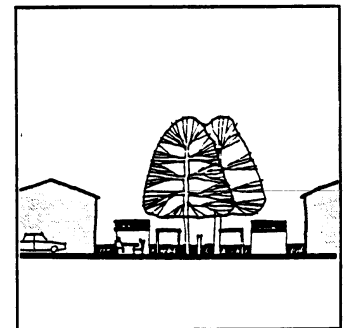


Figure 3.5.10 Shared Plant Material

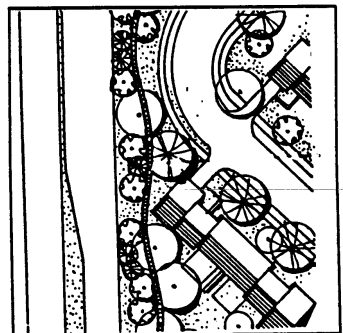


Figure 3.5.11 Wooded Neighborhood Boundary

3.25 Case Study

a. Introduction

The Family Housing Area depicted in this Case Study Includes over 600 homes for commissioned and non-commissioned officers and their families. The housing units are duplexes and single family, one-story detached wood and brick homes. As part of a program to involve livability all family housing on the installation is being revitalized. The following broad objectives have been established to guide the Improvement program.

- Emphasize the existence of six distinct neighborhoods based on rank structure and geography to strengthen residents' sense of belonging to a unique community- (Figure 3.5.12)
- Alleviate current problems caused by a lack of landscape design, including an absence of privacy for the homes, no definition of open space or recreation areas and an unattractive streetscape.
- Define the entry points to each of the different neighborhoods to Improve the visual appearance of the area.
- Provide new recreational facilities for all the neighborhoods in the area.
- Widen the collector road that bisects the area to relieve congestion and Improve the streetscape treatment.

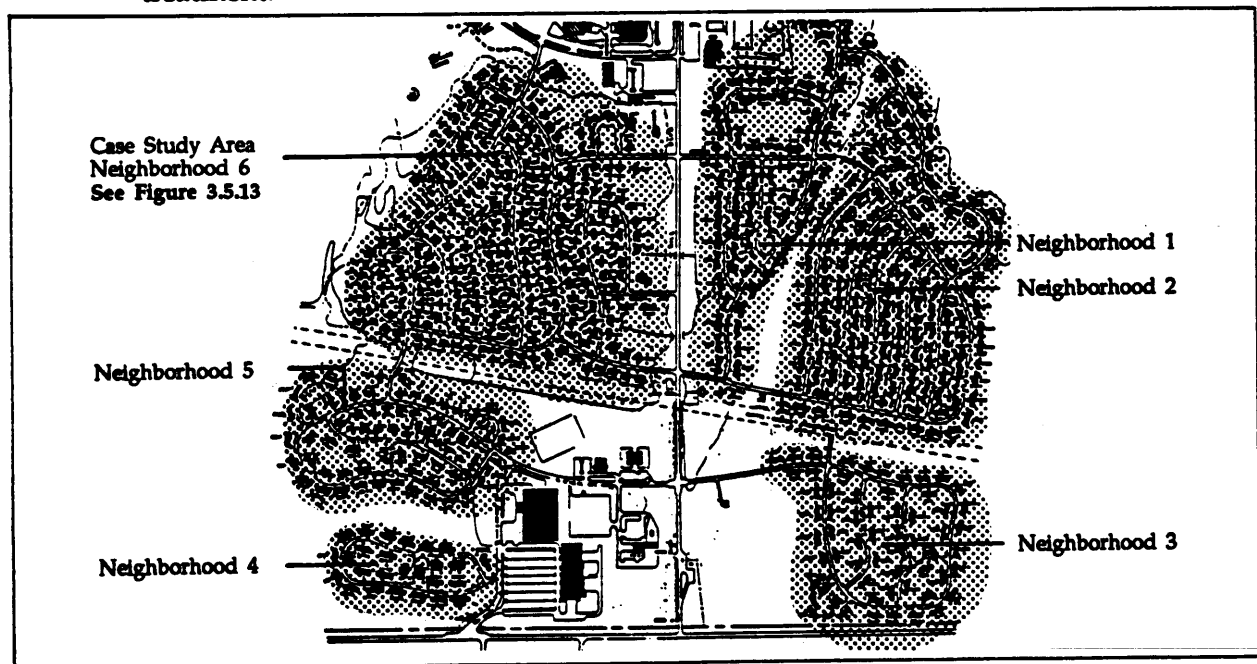


Figure 3.5.12 Division of the Area into Six Distinct Neighborhoods Based on Rank

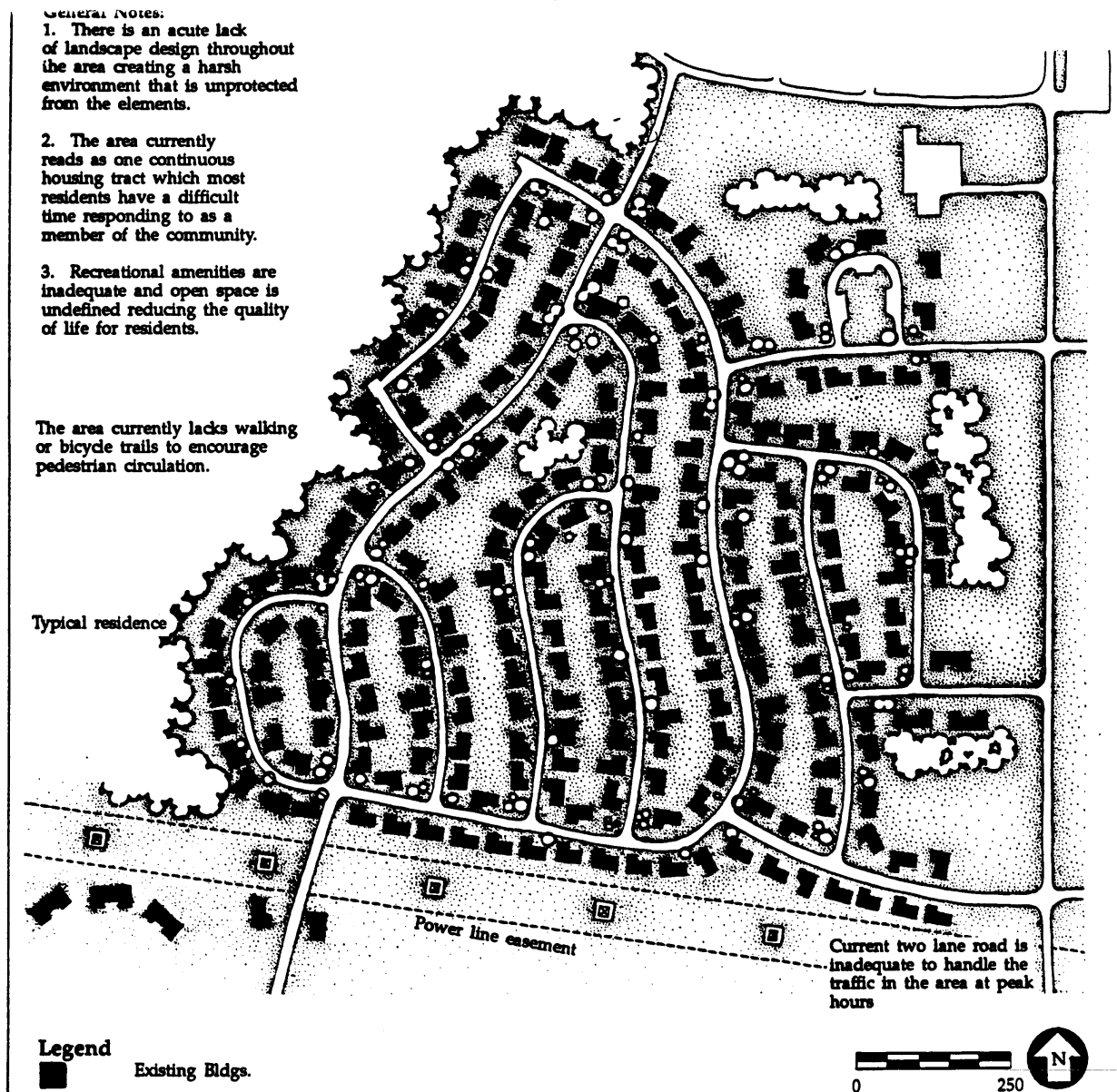


Figure 3.5.13 Existing Conditions, Neighborhood 6.

b. Analysis Questions

An ADP for this Case Study Area (Figure 3.5.13) should answer the following questions:

- Can each resident of the area feel a sense of participation and pride in belonging to a recognizable neighborhood?
- Are there enough recreational amenities and defined open spaces for all the different residents of the area (Figure 3.5.14)?
- Are the existing roads and paths sufficient to support the movement of the residents throughout the area?

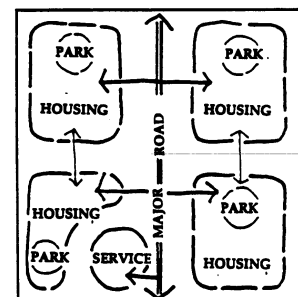


Figure 3.5.14 Functional Relationships

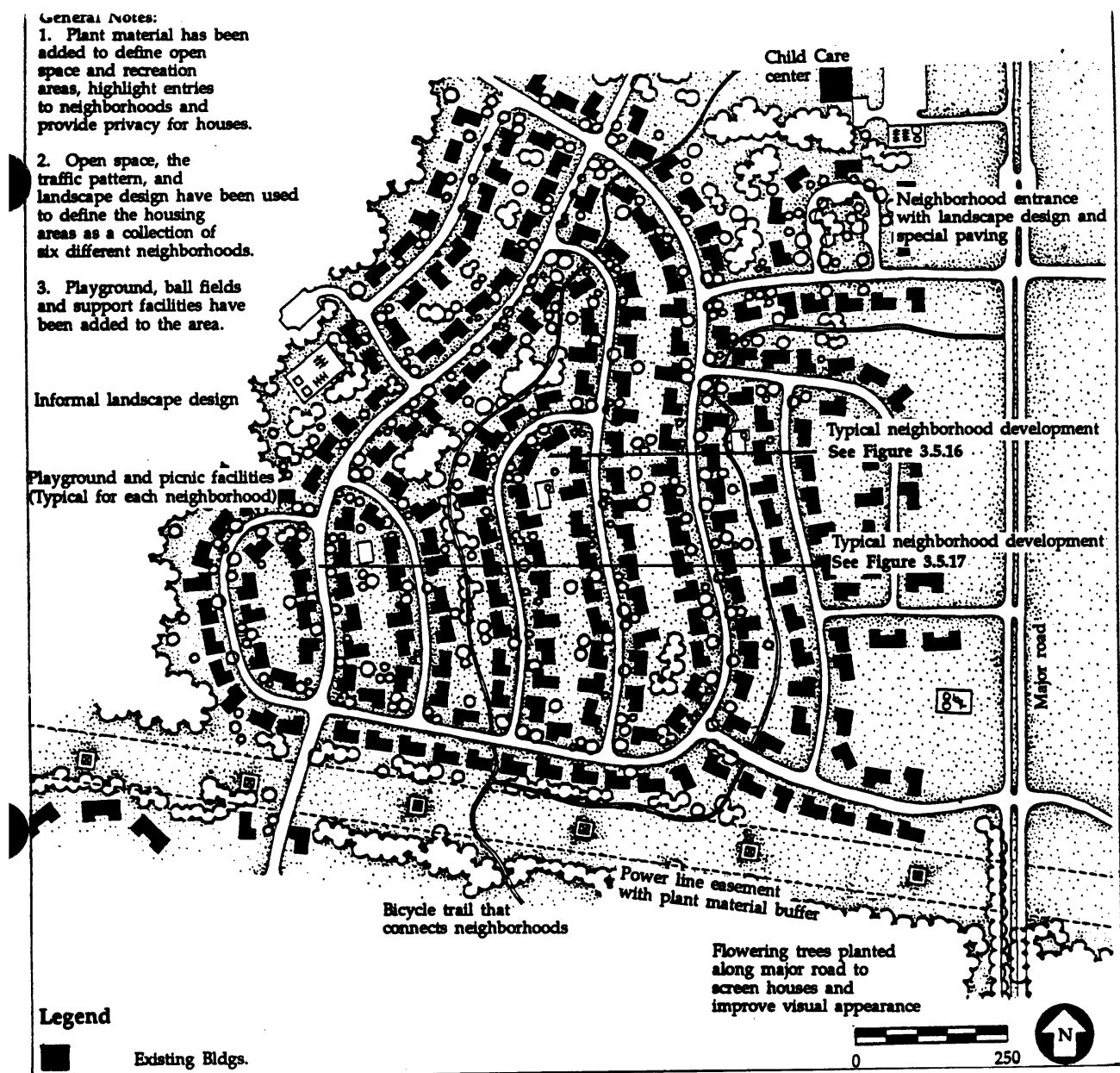


Figure 3.5.15 Area Development Plan, Neighborhood 6.

c, Area Development Plan

In general, this Case Study Family Housing Area is well planned. The proposals put forth in the ADP (Figure 3-15) would help make it an even better place to live and raise a family. The landscape design Improvements proposed for individual houses could be Implemented by residents, thus reducing labor costs. in a Family Housing Area, relatively modest sums can cause substantial visual and environmental Improvements.

d. Details

The following large scale details (Figure 3.5.16-3.5.17) illustrate the typical development of neighborhoods in the Case Study Area.

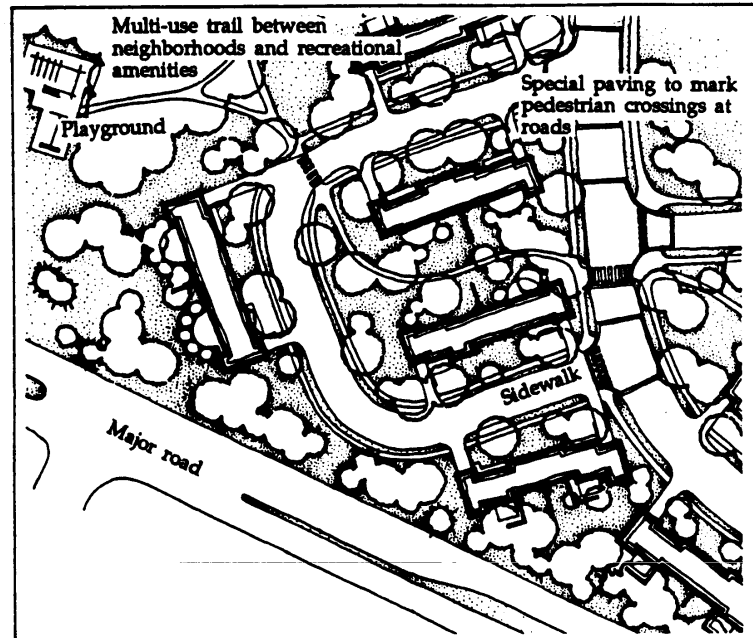


Figure 3.5.16 Typical Neighborhood Development

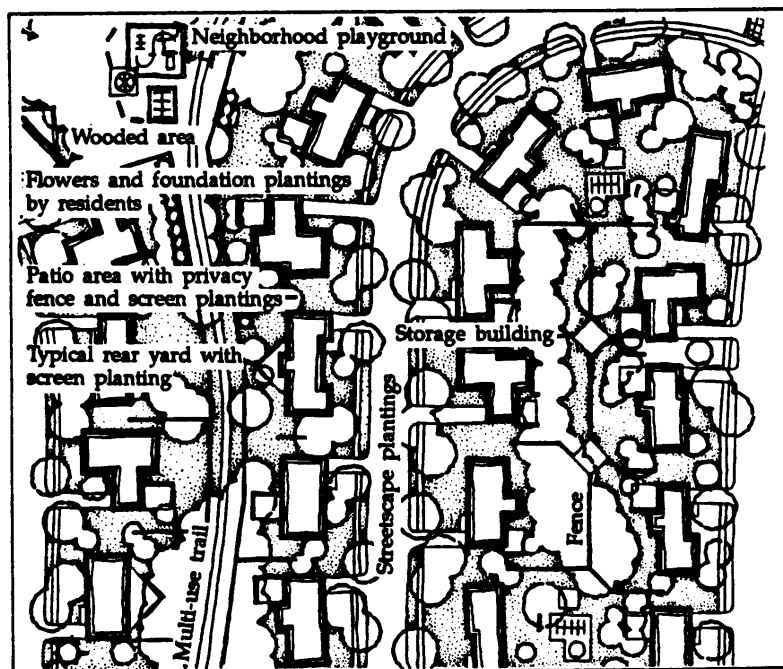


Figure 3.5.17 Typical Neighborhood Development

Notes:

G. Unaccompanied Housing Areas

3.26 Unaccompanied Housing Area Characteristics

There are several types of unaccompanied housing including officer housing and dormitories for enlisted residents and visitors. People living in the Unaccompanied Housing Area (Figure 3.6.1) are among the most frequent users of some of the installation's commercial and service facilities, including the post office, exchange and clubs. These areas are characterized by:

- Densely populated, noisy dormitories and related service facilities;
- Important pedestrian connections with the Community Center and Administrative Areas;
- A resident population comprised of young men and women;
- Open space for residents' active and passive recreation facilities;
- Perimeter parking areas for residents' vehicles.

Visiting officer Quarters (VOO)

Visiting Airmen Quarters (VAO)

Unaccompanied Enlisted Personnel Housing (UEPH)

Unaccompanied Officer Personnel Housing (UOPH)

Figure 3.6.1 Listing of Unaccompanied Housing Facilities

3.27 Functional Relationships

Dormitories in an Unaccompanied Housing Area should be within walking distance of dining halls, parking lots and recreational amenities (Figure 3.6.2).

	Dormitories	Dining Hall	Open Space	Recreational Amenities
Dormitories	●	○	○	○
Dining Hall	○	●	○	○
Open Space	○	○	●	○
Recreational Amenities	○	○	○	●

Figure 3.6.2 Functional Relationships Table

Cluster dormitories around open space to provide areas for residents to gather and relax. Locate parking lots so that they can be shared by more than one dormitory.

3.28 Planning and Design Guidelines

a. General Guidelines

General planning and design guidelines In an Unaccompanied Housing Area should create a unified campus-like environment that enhances the professional living and training Image of the military A pedestrian circulation system, ample open space, well maintained plant material and humanly-scaled buildings are all essential to create this Image.

- Provide ball fields, basketball and tennis courts, and other outdoor recreational amenities, as an integral part of the open space in the area (Figure 3.6.3).
- Emphasize the division of the area into unit groups by clustering dormitories according to unit group identity-
- Create plazas and open space for informal social gatherings (Figure 3.6.4).
- Integrate new dormitories Into areas of existing development to preserve open space.

b. Pedestrian Circulation

A dynamic, pedestrian-oriented Unaccompanied Housing Area can Improve camaraderie by creating an environment where airmen can meet and socialize. Pedestrian circulation routes between the Unaccompanied Housing Area and other parts of the Installation frequently used by servicemen Is an Important consideration in preparing an ADP.

- Provide paved paths that reflect desired lines of movement and feature architecturally compatible walkway lighting.
- Provide outdoor eating areas for dining halls (Figure 3.6.5).(This guideline applies to temperate climate regions.)
- screen trash dumpsters and locate them away from pedestrian circulation paths to minimize pedestrian contact with unpleasant sights and smells.

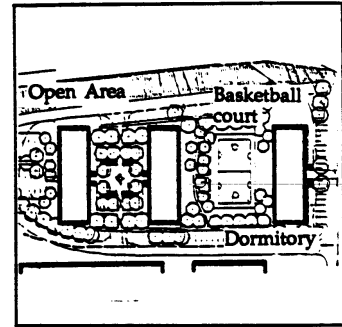


Figure 3.6.3 Outdoor Recreational Amenities

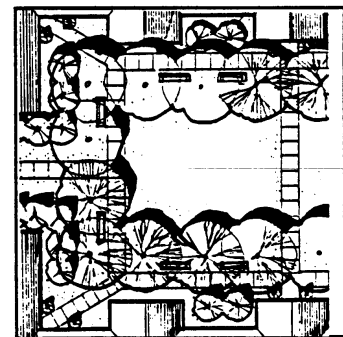


Figure 3.6.4 Housing Grounds

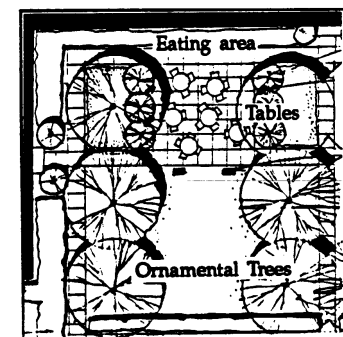


Figure 3.6.5 Outdoor Eating Areas

- Minimize conflicts between vehicular and pedestrian circulation paths.
 - Use special paving to indicate crosswalks at roads.
 - Provide a plant material buffer between pedestrian paths and roads.
- Use arcades to shield pedestrians from inclement weather and encourage pedestrian circulation year- round.

c. Vehicular Circulation

Traffic In an Unaccompanied Housing Area consists primarily of servicemen's POVs and Installation vehicles related to the servicemen's jobs. Guidelines should control both traffic pattern and speed to ensure a coherent and safe environment for residents.

- Limit vehicular circulation to the perimeter of the area to create a central space for buildings and pedestrians that is free from traffic.
- Locate parking areas so that they can be shared by more than one dormitory-
- Locate service drives and loading docks away from pedestrian entrances and paths.
- Use rumble strips to control vehicle speeds in parking areas.

d. Architectural Design Guidelines

The majority of buildings in an Unaccompanied Housing Area are dormitories. Architectural design guidelines should create a cohesive, campus-like environment by standardizing the exterior designs of the buildings In the area.

- Use building siting and landscape design to spatially define and control street corridors (Figure 3.6.6).
- Highlight building entries with well-designed canopies and projected openings.
- Create an appropriate sense of scale for the dormitories by using architectural form, massing and detailing that relates to the human figure (Figure 3.6.7).
- Use setbacks when siting buildings next to roads to provide space for sidewalks and landscape design (Figure 3. 6.8).

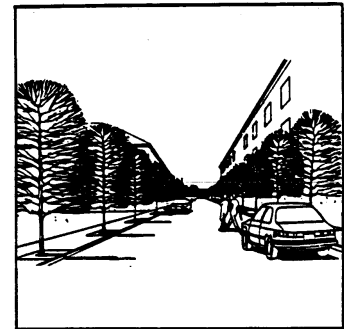


Figure 3.6.6 Defined Street Corridors

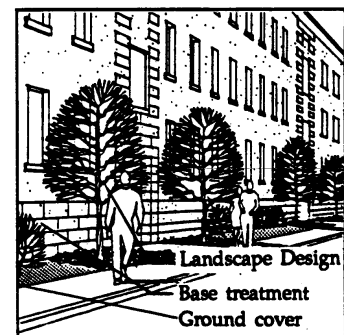


Figure 3.6.7 Architectural Scale

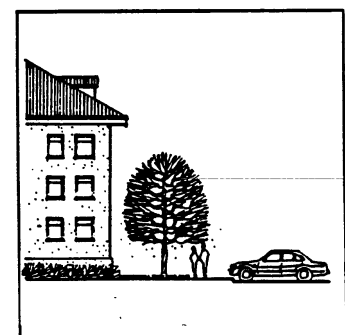


Figure 3.6.8 Building Setback

- Site new buildings to create spaces that reinforce pedestrian circulation. Reinforce street and pedestrian paths by siting new buildings parallel to existing circulation routes.
- Adapt standard dormitory designs to accommodate regional climatic and topographic conditions.

e. Landscape Architectural Design Guidelines

Landscape design in an Unaccompanied Housing Area should be simple and functional. Simple and functional landscape design would include trees for screening and shade, and flat lawn areas for gathering and recreation.

- Provide shade trees to visually and spatially define parking lots (Figure 3.6.9).
- Use shade and ornamental plantings, special paving, site furnishings and lighting in courtyards (Figure 3.6.10).
- Screen unsightly areas, such as dumpsters and transformers, with trees and other plant material (Figure 3.6.11).
- Highlight dormitory entrances with plant material to enhance building appearance.
- Use plant material to help define outdoor recreation areas.

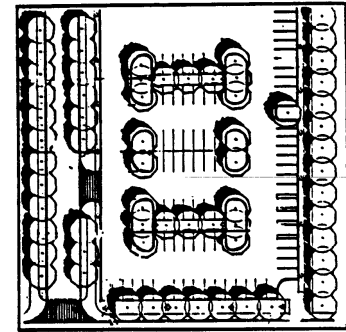


Figure 3.6.9 Landscaped Parking Area

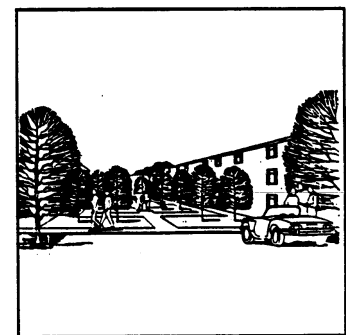


Figure 3.6.10 Landscaped Courtyard

3.29 Case Study

a. Introduction

The small Unaccompanied Housing Area illustrated in this Case Study depicts some typical conditions found on many installations. The area is functionally well-planned, but would benefit a great deal from the careful addition of new facilities and landscape design. An Area Development Plan has been initiated to meet the following objectives.

- Provide two new dormitories to relieve current overcrowding in the existing buildings.
- Add streetscape improvements called for in the landscape division of the Base Comprehensive Plan
- Expand the capabilities of the dining hall by remodeling the kitchen and providing new indoor and outdoor eating areas.

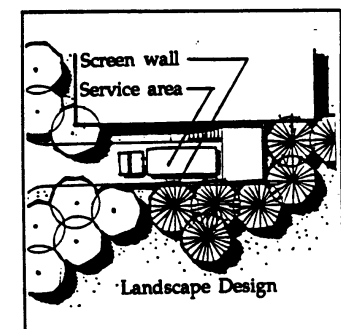


Figure 3.6.11 Screened Loading Area

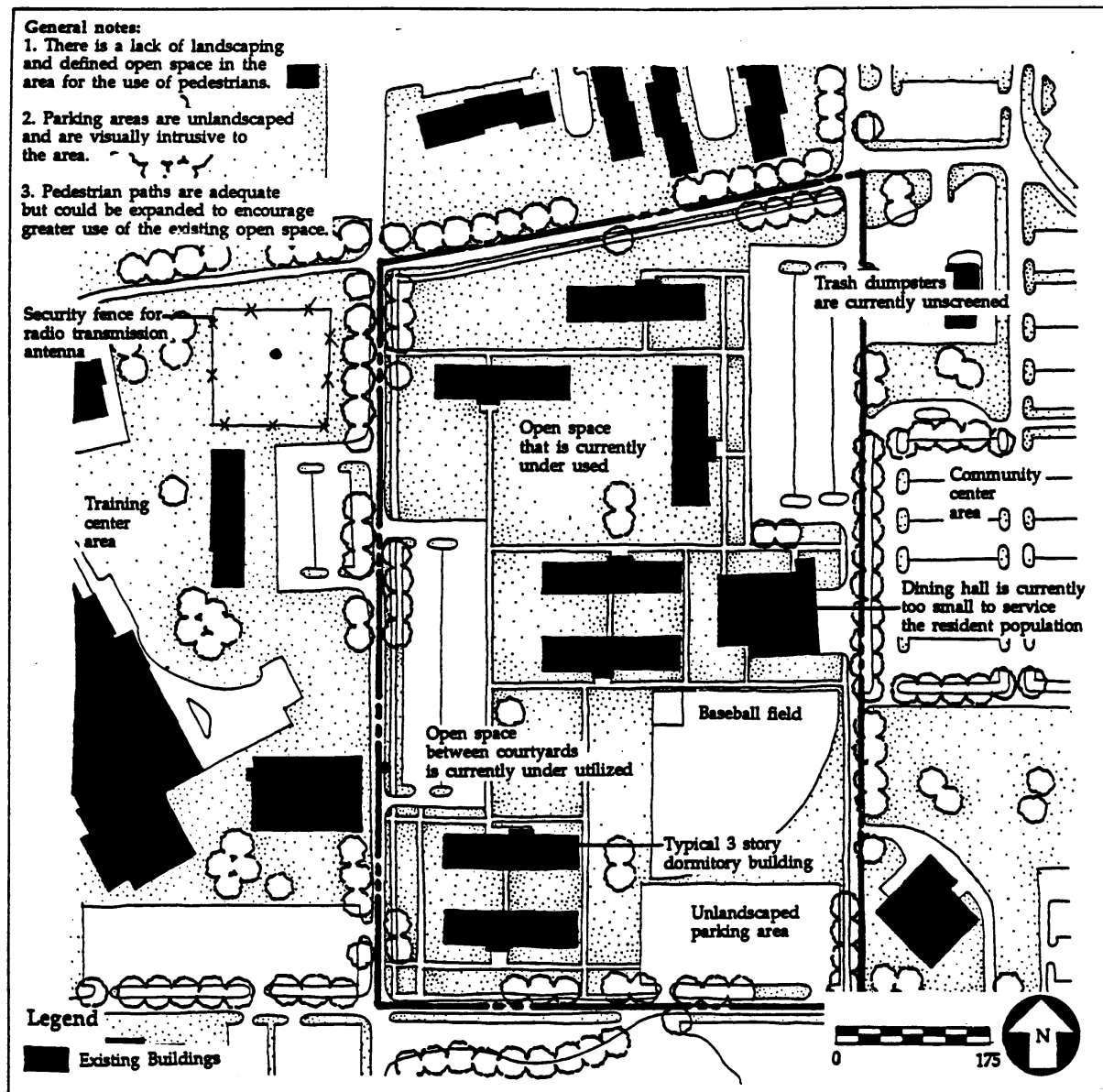


Figure 3.6.12 Existing Conditions

b. Analysis Questions

An analysis of the Case Study Area (Figure 3.6 .12) should answer the following questions:

- Are the buildings arranged to create attractive and pleasant outdoor spaces that encourage pedestrian circulation?
- Is the arrangement of the facilities conducive to efficient operations in the area (Figure 3.6.13)?
- Is their adequate open space for the residents?

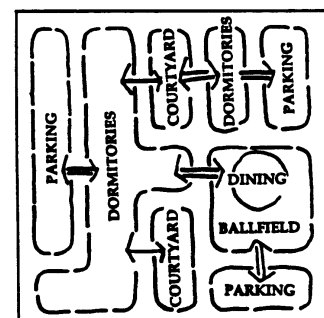


Figure 3.6.13 Functional Relationships

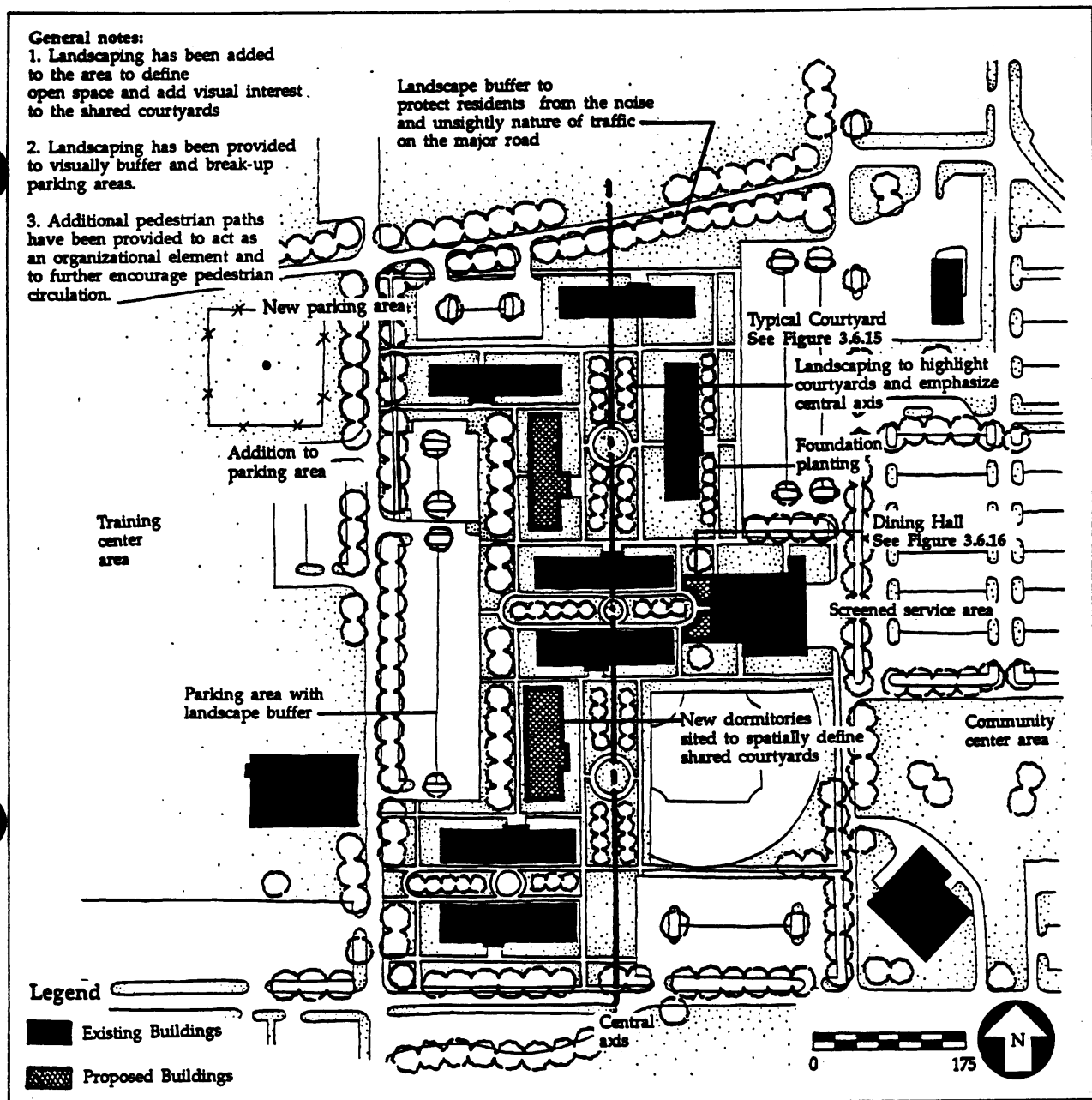


Figure 3.6.14 Area Development Plan

c. Area Development Plan

The Case Study Area (Figure 3.6.14) has reached a comfortable limit of development with the introduction of two new dormitories and increased parking areas. The new dormitories have been sited parallel to the central axis to help define spatially two courtyards. Any additional need for unaccompanied housing in the future should be met in another part of the Installation.

d. Details

The following details (Figure 3.6.15, 3.6.16) illustrate the appropriate level of detailing.

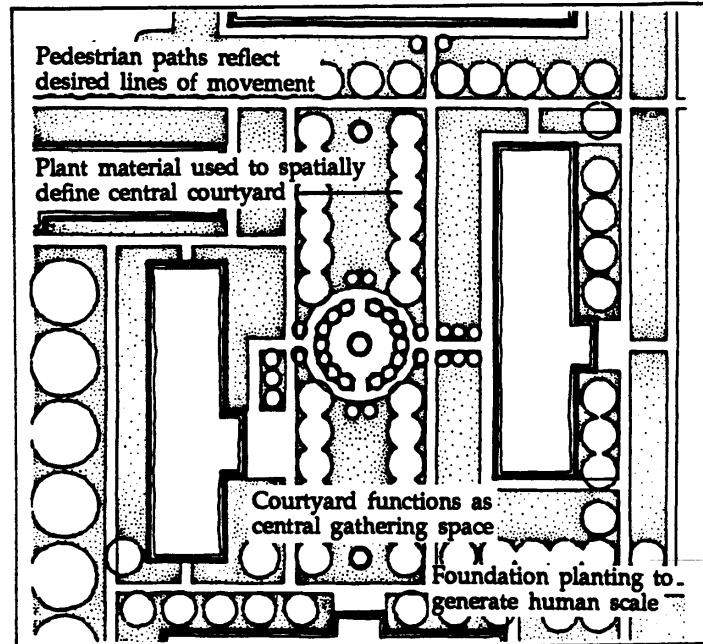


Figure 3.6.15 Typical Courtyard

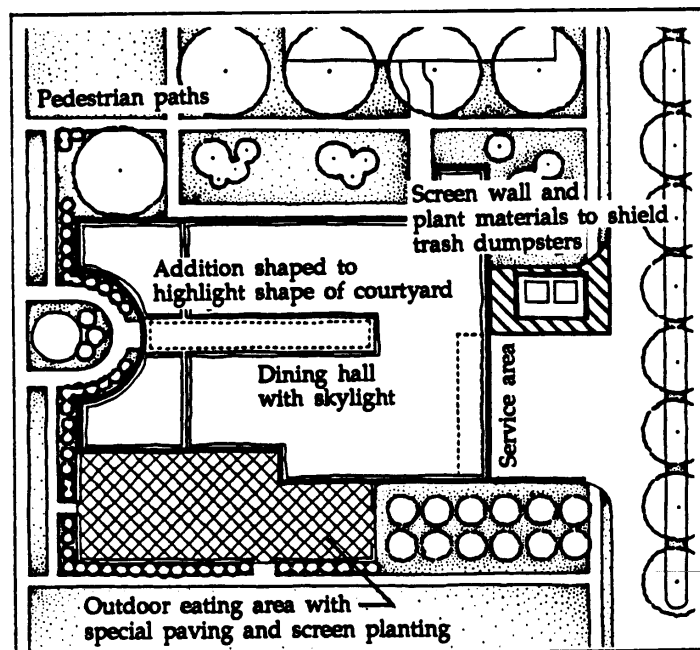


Figure 3.6.16 Dining Hall

Notes:

H. Outdoor Recreation Areas

3.30 Outdoor Recreation Area characteristics

Outdoor Recreation Areas Improve quality of life by providing recreation and relaxation facilities for an Installation community. Facilities in an Outdoor Recreation Area often Include tennis and basketball courts, playing fields, and recreational support amenities, (such as the golf clubhouse, or swimming pool) (Figure 3~.1). These areas are characterized by:

- Large areas of open space, sometimes in proximity to bodies of water;
- Golf courses, picnic grounds, play areas and other facilities that provide outdoor recreation for children and adults;
- The presence of families after work and on weekends;
- Opportunities for camping and fishing;
- A relaxing atmosphere.

Tennis Courts

Golf Course

Ball Fields

Pool

Family Camping Area

Parks/Picnic Areas

Figure 3.7.1 List of .some
Common Outdoor Recreation
Facilities

3.31 Functional Relationships

Outdoor Recreation Areas should be physically attractive. Related recreational facilities, (Figure 3.7.2) (such as playing fields and picnic areas), should be close to one another, to make the most effective use of parking lots and recreational amenities (such as restroom facilities).

	Tennis Courts	Golf Course	Ball Fields	Pool	Family Camping Area	Parks/Picnic Areas
Tennis Courts	●	○	○	○	○	○
Golf Course	○	●	○	○	○	○
Ball Fields	○	○	●	○	○	○
Pool	○	○	○	●	○	○
Family Camping Area	○	○	○	○	●	○
Parks/Picnic Areas	○	○	○	○	○	●

Figure 3.7.2 Functional Relationships Table

Provide open space around ball fields for spectators. Provide support facilities (such as changing rooms, shower facilities, docks, etc.) for recreational activities that take advantage of any available, large bodies of water.

3.32 Planning and Design Guidelines

a. General Guidelines

Outdoor Recreation Areas that are large enough to require their own Area Development Plans are categorized as one of two types, active-use, (such as ball fields and golf courses) or passive-use, (such as outdoor preserves). (In the *Land Use Planning Pamphlet APP 86-7*, the terms intensive use and low density are used to refer to active-use and passive-use areas, respectively.) The following general guidelines are applicable to both types of Outdoor Recreation Uses.

- Limit "through" roads and restrict vehicular traffic to perimeter streets to minimize conflict between people using recreational facilities and vehicular circulation (Figure 3.73).
- Establish low speed limits where streets are required in the area.
- Minimize the interaction between pedestrians and vehicles by creating buffers between recreation areas, roads and parking.
- Consider the needs of the entire community by creating both passive and active recreational amenities (Figure 3.7A).
- Provide attractive, functional, site furniture and amenities that are appropriate for use (possible examples include a rustic bench for a nature trail, or a wrought-iron park bench for a ball field).
- Link improvements made to outdoor recreation facilities with the Installation's overall landscape and open space planning objectives.
 - Continue the streetscape theme found on adjacent areas through the Outdoor Recreation area, if appropriate.
 - Link large, separate areas of open space with trails and hiking paths.
- Establish a network of jogging/hiking trails and bike paths that are clearly separate from streets (Figure 3.7.5).

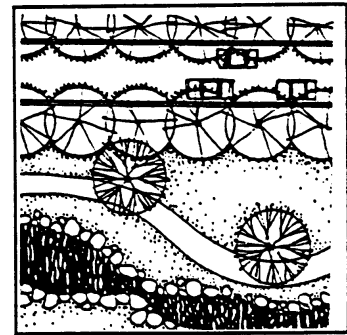


Figure 3.7.3 Wooded Open Space

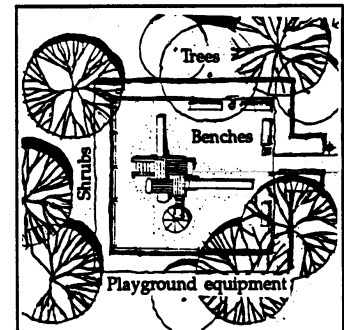


Figure 3.7.4 Playground

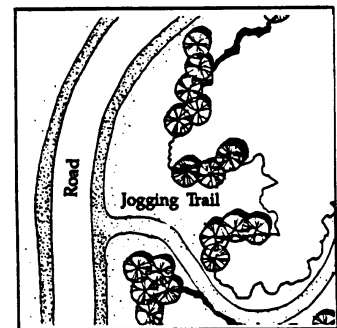


Figure 3.7.5 Jogging/Hiking Trail

- Create outdoor environments that encourage recreation and relaxation and are a retreat from the stress and pressure of people's daily schedules.

b. Active-Use Recreation Areas

Active-use Outdoor Recreation Areas usually are heavily populated and require a substantial amount of facility support and maintenance. Examples include golf courses, swimming pools, ball fields and tennis courts.

- Site playing fields in proper relationship with sun angles to avoid glare from the setting sun.
- Use large trees to give wind protection at courts and ball fields.

c. Passive-Use Recreation Areas

Passive-use Outdoor Recreation Areas require a minimum of facility support and land disturbance. Examples include nature parks, picnic areas and hiking trails.

- Maintain existing habitats and Improve disturbed habitats by additional planting of native vegetation (Figure 3.7.6).
- Take advantage of available bodies of water to attract wildlife.
- Provide amenities such as drinking fountains, lighting, barbecue grills with dining tables, and trash receptacles.
- Use gravel, stone dust, or compacted dirt for nature trails, rather than concrete or asphalt, to minimize disturbance of the natural landscape.

d. Architectural Design Guidelines

Architectural design guidelines in an Outdoor Recreation Area are of a limited and general nature because of the minimum number of buildings required to support most recreation facilities.

- Design simple buildings with an informal character that enhance the relaxing atmosphere present in an Outdoor Recreation Area (Figure 3.7.7).
- Optimize the use of glass In club houses to emphasize views from inside the building and to decrease the building's perceived mass from the outside.



Figure 3.7.6 Stream
• Planted with native wildflowers and trees

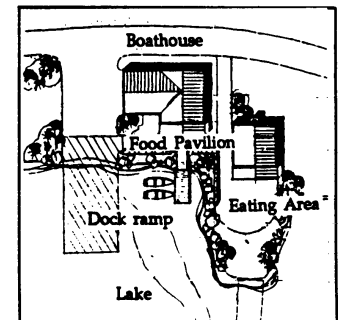


Figure 3.7.7 Informal Character
• Simple, wood buildings
• Informal landscaping

- Use buildings as buffers between open space and parking areas (Figure 3.7.8).

e. Landscape Architectural Design Guidelines

Landscape design helps give order to outdoor spaces, identify and frame Important features, define circulation patterns, and provide shade and other amenities.

- Provide appropriate paving, furnishings, and ornamental planting to provide an attractive, outdoor environment at high-use areas such as community pools, gyms, etc.
- Maintain existing trees, forest cover, wildlife habitat, and other features.
- Use plant material to soften buildings, direct views and buffer incompatible and unattractive adjacent land uses (Figure 3.7.9).
- Provide informal planting and natural vegetation to reflect the relaxing and Informal nature of the area.
- Create a unified appearance for recreational amenities by using similar designs and materials (Figure 3.7.10).

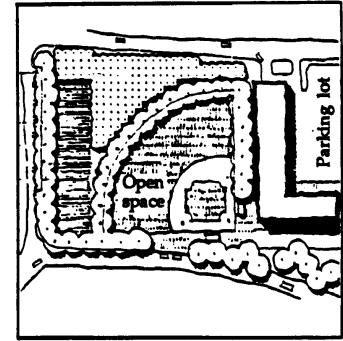


Figure 3.7.8 Building Siting



Figure 3.7.9 Landscape Screening

3.33 Case Study

a. Introduction

On the Installation where this Case Study is located, more outdoor recreation facilities are required to accommodate the needs of the community

b. Comprehensive Plan Objectives:

- Expand the existing child-care facility to meet a growing demand for day-care.
- Improve the streetscape treatment according to recommendations of the Landscape Section of the Base Comprehensive Plan
- Provide an additional soft ball field and two new tennis courts.
- Preserve existing wooded areas and provide new planting to enhance the aesthetic quality of the area.
- Respond to a need for a wildlife conservation area by establishing a Wildlife Habitat zone, where species currently residing within the boundaries of the Installation can reside.

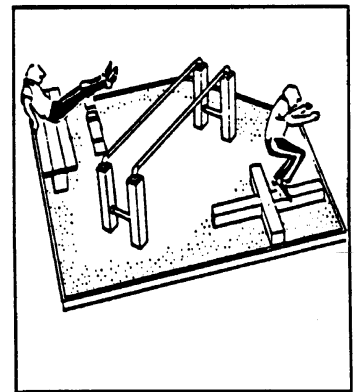


Figure 3.7.10 Exercise Station

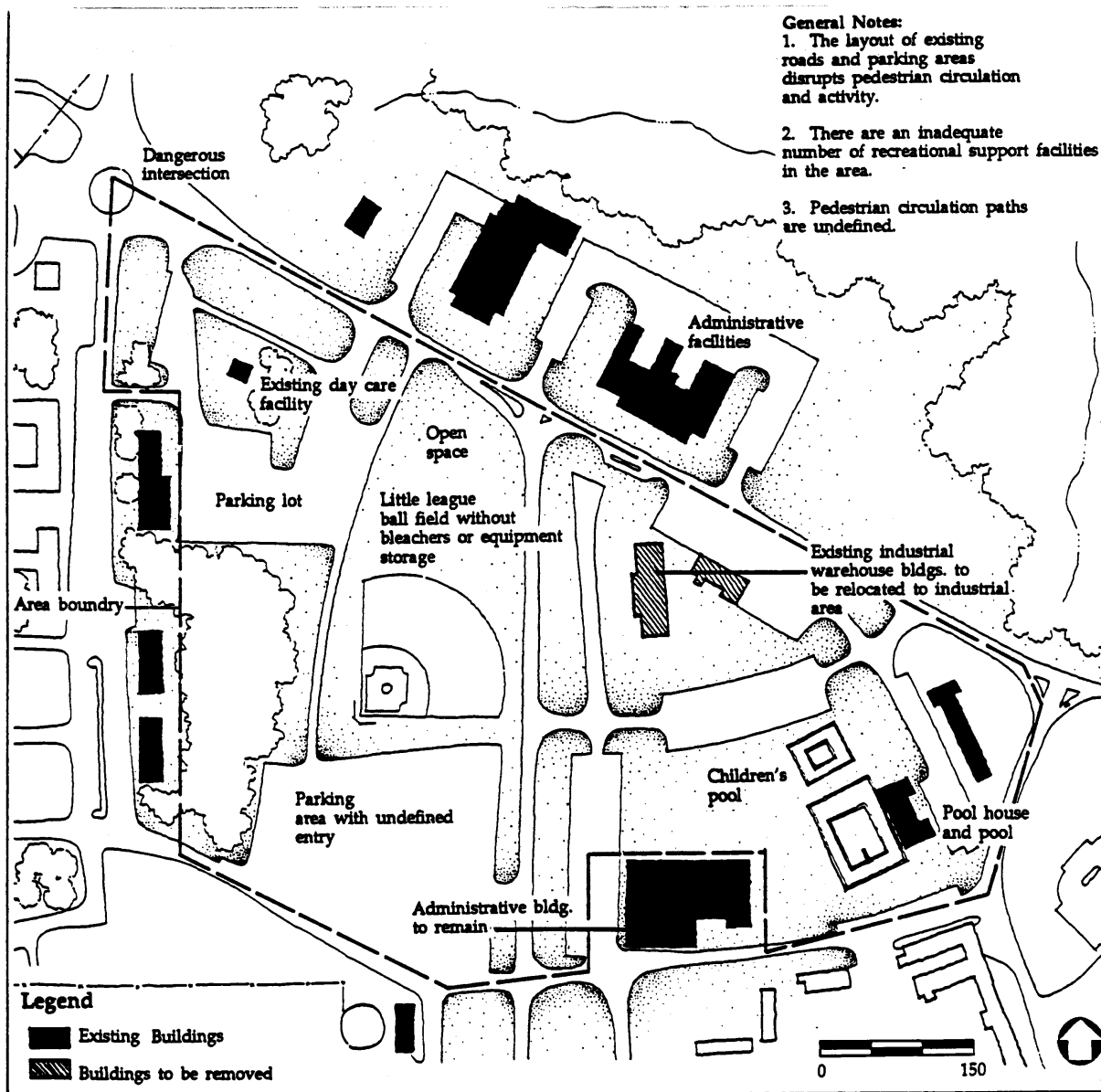


Figure 3.7.11 Existing Conditions

c. Analysis Questions

An analysis of the Case Study Area (Figure 3.7.11) should answer the following questions:

- Does the existing road network help to minimize conflicts with pedestrian circulation?
- Are there sufficient recreational activities for the different member groups of the installation community (Figure 3.7.12)?

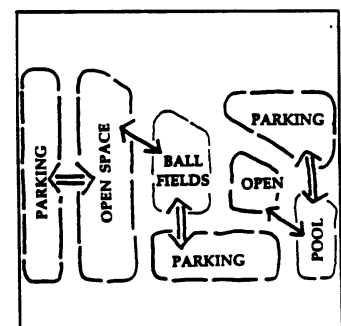


Figure 3.7.12 Functional Relationships

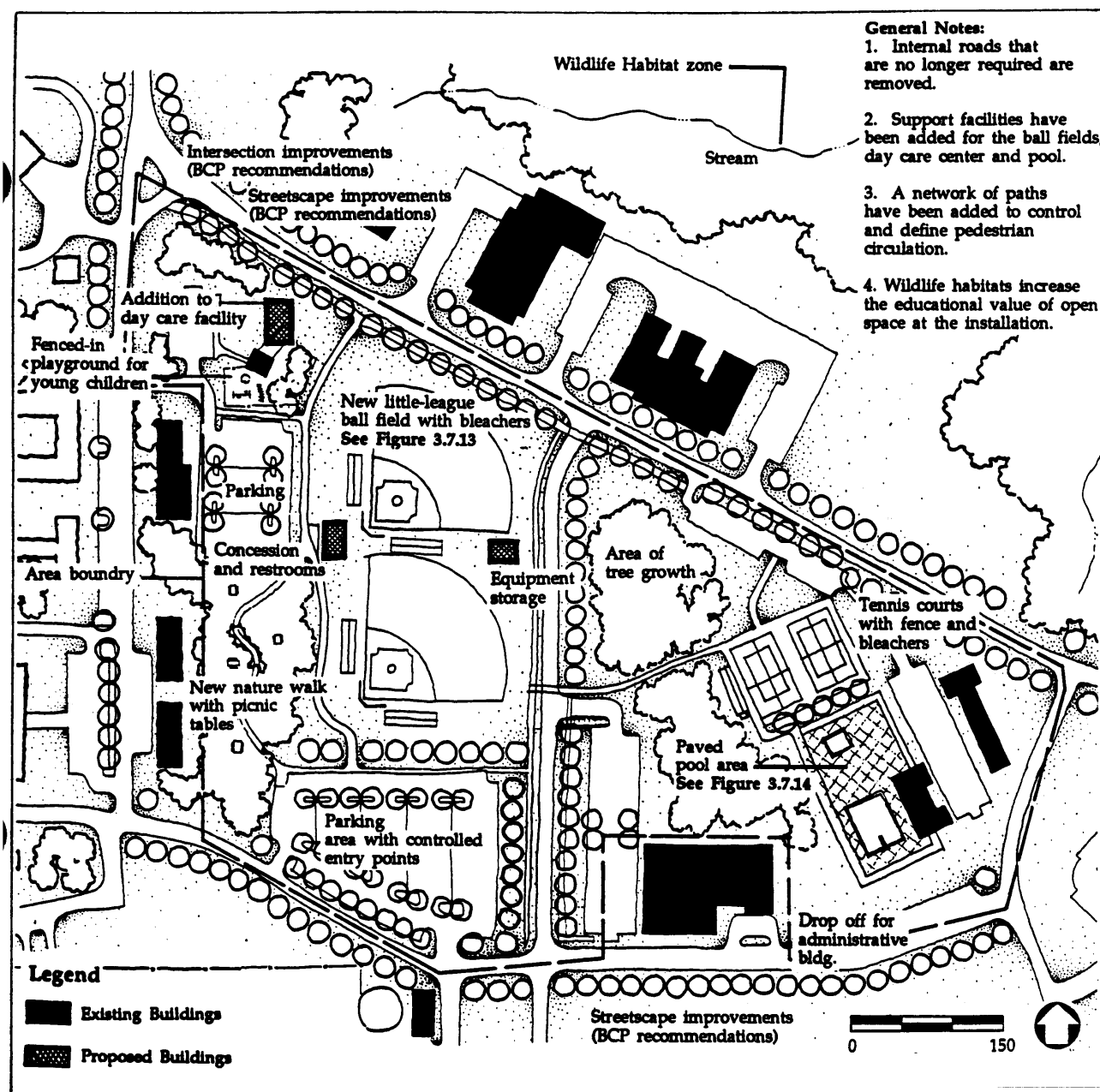


Figure 3.7.13 Area Development Plan

d. Area Development Plan

Implementation of the ADP (Figure 3.7.13) has created an Outdoor Recreation Area that features both active and passive recreational facilities. Facilities for active recreation include a playground for small children, a ball field for older children and regulation-sized, tennis courts for adults. Amenities for passive recreation include a nature walk and bleachers for watching sporting events.

e. Details

The following large-scale details (Figure 3.7.14, 3.7.15) of the Case Study Area Illustrate the typical detailing of an Outdoor Recreation Area.

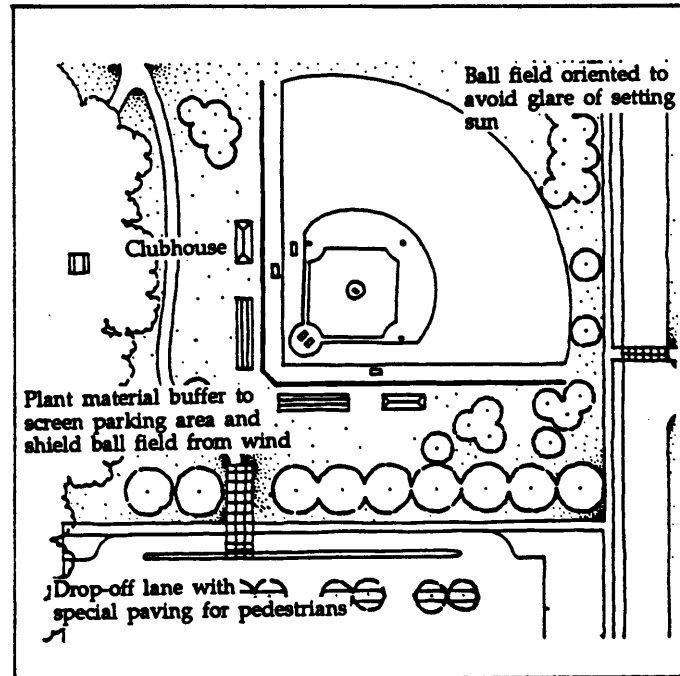


Figure 3.7.14 Typical Soft Ball Field

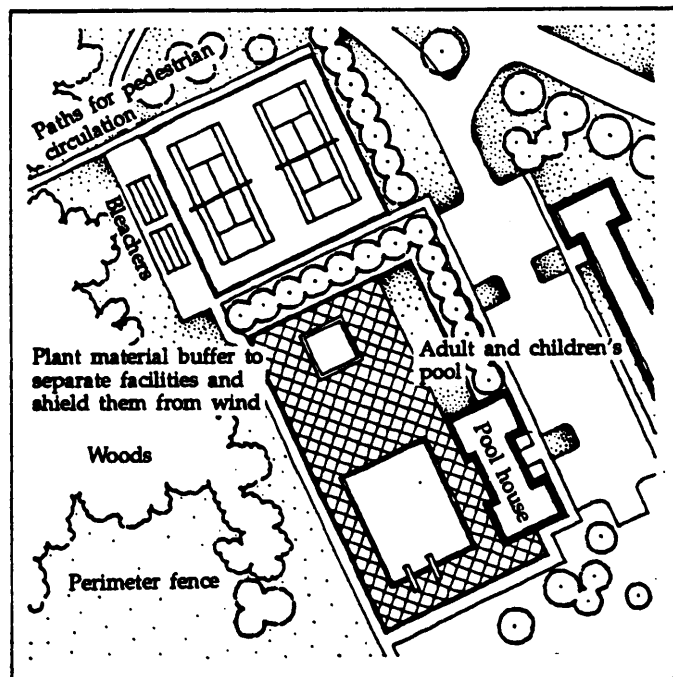


Figure 3.7.15 Pool Facilities

Appendices

Appendix A

Excerpts from the Base Comprehensive Plan of Peterson A.F.B.

The following appendix consists of excerpts from the Environmental Design Guidelines Section of the Base Comprehensive Plan prepared for Peterson A.F.B. They are an excellent example of the type and scope of design guidelines that should be addressed in a typical Area Development Plan. This appendix is intended to compliment the Design Guidelines section found in Chapter 3 of this document.

**PART
COMMUNITY CENTER CHARACTER AREA**

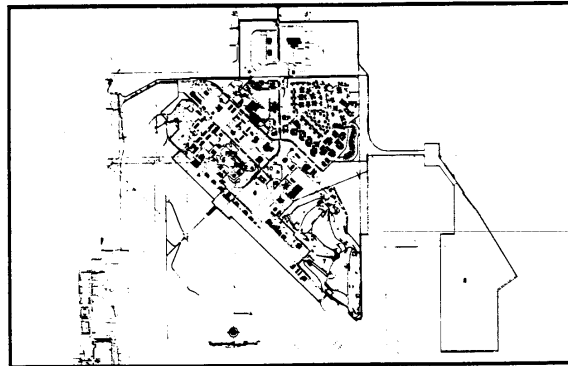
TWO

1. LOCATION AND CHARACTER

The Community Center Character Area includes all of the functional area of Peterson AFB which is commonly known as the Community Center. It is bounded on the east by the Family Housing area, on the north by the Main Gate Character Area, and on the south and west by Stewart Avenue and the West Gate Character Area. This area is nicer than most community centers on military installations. The buildings and functions vary greatly, and generally all provide a community-wide service.

Every building in this area has been built using materials, colors and design solutions which are slightly different from every other building. This helps create the unique feeling of a community center. However, this diverse design effort has been stretched to its limit in this particular character area. Any further digression will create a situation bordering on visual chaos.

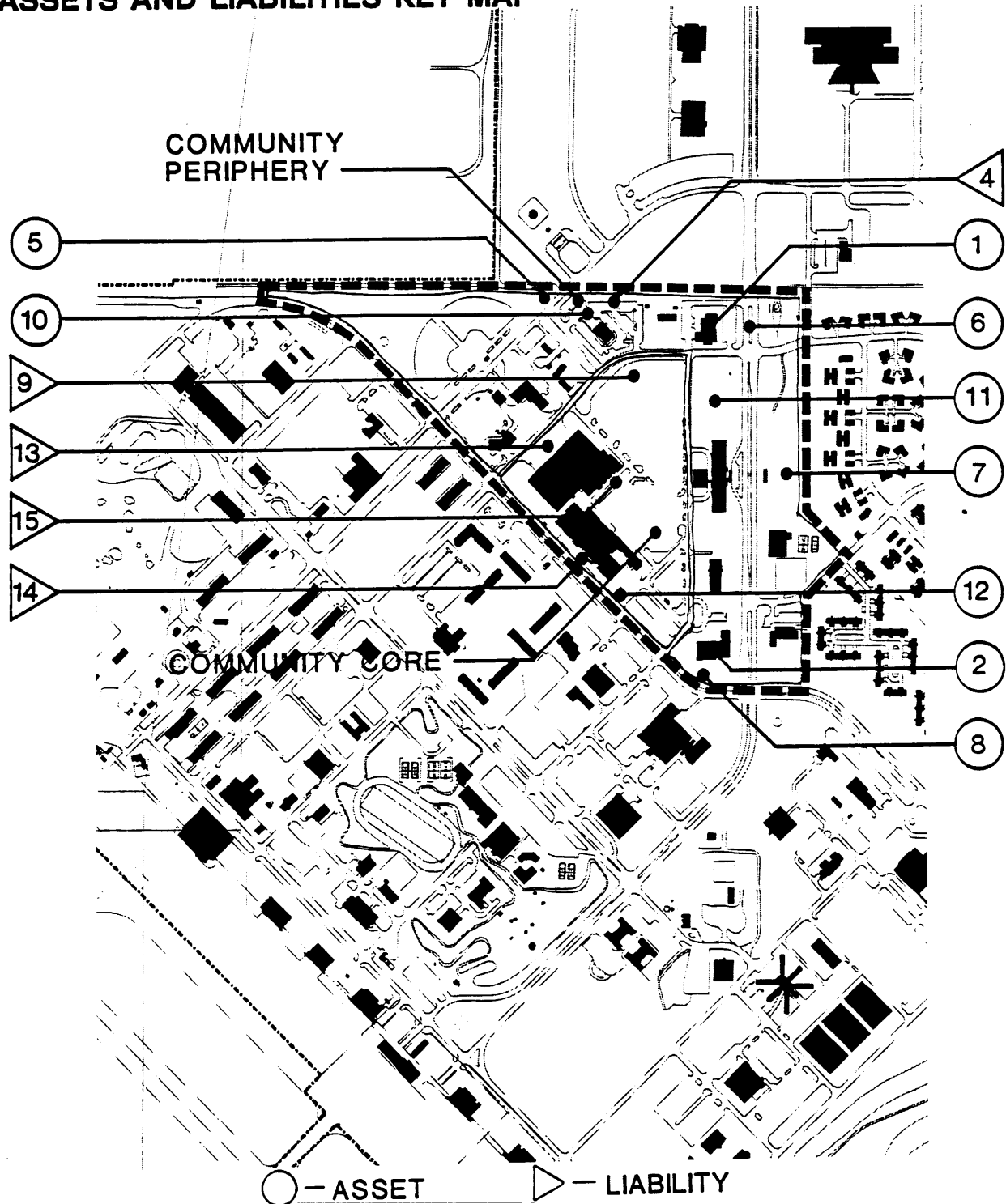
This character area is a very important part of Peterson AFB. This is due partly to the diverse functions located here, and partly to the fact that this community center really serves all of the Peterson Complex. The impact of this situation is that people assigned to Falcon Air Force Base and Cheyenne Mountain Air Force Base, in addition to people living and working at Peterson Air Force Base, use the facilities located here. Thus the exposure to the military and civilian community, both visually and physically, is far greater than would normally be expected for a community center located on a typical air force base. Thus, there is a particular need for careful planning in this character area. People using the Community Center should get an experience similar to using one of the regional shopping malls located off base in Colorado Springs.



Community Center Character Area Location



Commissary Entrance

**Community Center Character Area
ASSETS AND LIABILITIES KEY MAP**

Assets and liabilities listed, but not specifically illustrated, are area wide.

2. ASSETS AND LIABILITIES

The visual assets and liabilities identified in this portion of the report are specific to the Community Center Character Area. Observations have been made in the three primary areas of building design, landscape design, and site elements. These positive and negative aspects form the foundation of the specific criteria/design guidelines in addition to providing a list of “dos and don’ts” for this character area

BUILDINGS

1. **ASSET** - The Security Police facility and site area are well-maintained and in keeping with the character of this area.
2. **ASSET** - The Chapel is a community focal point and an excellent example of good building design in the community center. The use of form and materials are especially notable.



Peterson AFB Chapel

3. **ASSET** - Most community center facilities are permanent construction with brick as a primary material. This must be recognized as an asset; however, better color and material matching must be accomplished in the future to achieve a more cohesive appearance.

4. **LIABILITY** - Some of the secondary facilities in this area (i.e., Dog Kennel and Service Station) must be considered inappropriate from an architectural standpoint. They detract from the “town center” visual image.

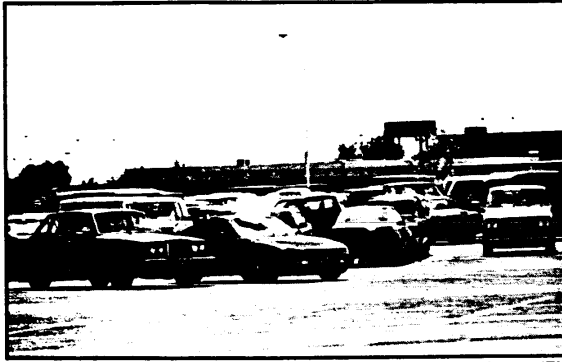
LANDSCAPE

5. **ASSET** - Mature, evergreen buffer strip is a considerable asset along the northern border of this area.
6. **ASSET** - Many areas along Peterson Boulevard have mature, well-maintained plant material. The streetscape, display areas, and medians are very positive.

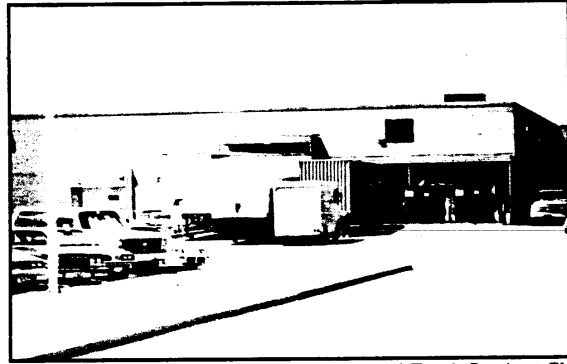


Mature Vegetation

7. **ASSET** - The parade ground is an asset from the dual viewpoints of landscaping and site planning.
8. **ASSET** - The landscaping is notable around the Chapel because of its visual prominence at this pivotal intersection.
9. **LIABILITY** - The extremely large parking areas are devoid of any visual relief, screening, or shade. These areas have little apparent organization and provide an environment that is “hostile” to pedestrian traffic. This is a crucial failure in a community center area



Large Parking Lot East of Commissary/BX



Unscreened Truck Dock at BX

SITE ELEMENTS

10. ASSET - The site surrounding McDonalds has been furnished in a comprehensive manner with trash receptacles, signage, and parking lot screening. The overall impression is positive.
11. ASSET - This memorial/aircraft display area is significant due its mature development, as well as its visual prominence at the adjacent intersection.
12. ASSET - The precast concrete sign should be recognized as an asset because it responded to the important need for a strong focal point in the community center area. It may not be powerful enough, however, to overcome the present confused visual environment.
13. LIABILITY - The truck dock area is unscreened and directly bordering a major community center road. The visual impact is unacceptable in the "town center".
14. LIABILITY - Service and parking areas are much too close to Stewart Avenue. Primary roadways must have a reasonable horizontal separation from neighboring buildings and parking.

15. LIABILITY - Benches, trash receptacles, bollards, light fixtures and other site furnishings are scarce. When these pedestrian amenities are present, they are usually uncoordinated and unbecoming in this area.



Unmatched Site Elements at Commissary

3. OBJECTIVES

In many ways, this character area, due to the functions and activities located here, must be “all things to all people”, using this term in a good sense. This area functions as the central business district, financial center, religious center, child care and youth center, and as an important office center for the entire Peterson Complex. This rich mix of functions brings a diversity of people to this particular area for many different reasons.

a. Concept Statement

Because of the stated high visibility of this character area, the architecture, landscape and site design elements projected for use here should be of consistently high quality, and should impart a warm and genuine welcome to all who use these facilities. The central theme for this character area should seek an image which is comparable to that of major/regional shopping centers in the private (commercial) sector. The user shopping experience should be elevated to a celebration, rather than a perfunctory obligation. This character area is already visually diversified and physically mature in a building design sense. Overall character area visual unity should be provided through the consistent use of landscape design and site elements design, using similar forms, materials, and colors repeatedly for maximum visual impact. This can be accomplished through the following:

- This particular character area is physically mature, meaning that there are few opportunities to locate new facilities here. However, some new changes are planned for this area. New buildings should match or closely harmonize with adjacent facilities in the areas of materials, color and overall design solutions. This approach will in effect “freeze” available design solutions to those which have gone before, helping to avoid further manifestations of visual diversity.

- The Peterson Corridor Open Space Preserve takes up the entire eastern segment of the character area. This area should be landscaped in a consistent manner along the Preserve's entire length. Additional buildings should not encroach upon this preserve, and only limited additions to existing buildings would be allowed.
- Site design elements can, through the consistent use of materials, colors and forms, help reinforce a visual unity, a “sense of place” over the entire community center. These elements should be high quality and of a singular design style to reinforce a unified identity.

b. Landscape Objectives

The main objectives for landscaping in this character area are:

- Landscape treatments will be a key issue in this character area. The use of similar plants and landscape design methods will help create a sense of visual unity which currently is marginal in this character area.
- Provide a unifying element throughout the character area by planting similar landscape materials in consistent patterns.
- Buffer the extensive parking lot visually from adjacent roads and buildings.
- Provide a more interesting streetscene adjacent to the area to encourage people to come in and use the facilities.
- Develop the character area as the main location for activity within the base. Develop additional plazas, outdoor use areas and plantings that encourage people to come into the area and use the facilities.
- Reduce the negative visual impacts of the blank building walls along Stewart Avenue through the use of street tree plantings and in the use of tree mass groups.

- Create a well defined, visually pleasing main entry into the Community Center from Stewart Avenue.

4. GUIDELINES

a. Introduction

The guidelines for the Community Center Character Area are divided into three distinct but interrelated disciplines: building, landscape and site elements design. Each set of guidelines has been developed to help implement the physical manifestation of ideas and concepts discussed in earlier parts of this EDG.

The building design guidelines are included here in Part Two of Section Two. The landscape and site elements guidelines may be found in the reference libraries in Section Three. Matrixes are included here to directly cross-reference those guidelines applicable to the Community Center Character Area.

**Guideline
Building
COMMUNITY CENTER CHARACTER AREA**

Design

**BD-2
Guidelines**

The information presented on the general character, visual assets and liabilities, objectives, and overall concept for the Community Center Character Area must now be synthesized with respect to the environmental design influences and principles, and general building design considerations discussed in Section One. The synthesis of these factors will facilitate and direct the building design process.

The building design guidelines control visual elements such as form, material and color. Other matters which will not be addressed in these guidelines include building function (program requirements), building interiors, and overall layout of floor plans. Existing positive visual design qualities will be enhanced and encouraged for use in new facilities, while negative qualities will be discouraged.

Design Character

Many building design types have been used throughout this area. A separation into two parts seems to be the most effective way to approach this character area.

Community Core Mini-Campus

The desired character for this area is an upscale, festive, “commercialized” shopping mall atmosphere.

Several additions and alterations are tentatively planned for the Commissary/BX complex. Part of these improvements have been identified as “arcades”, or indoor “malls” to functionally and visually unify this shopping complex into one large mall structure. The intent is to use glass with metal framing systems to help blend the existing structures where concrete, stucco, and two brick colors have been used in a disorganized and incongruous manner.

Community Periphery Mini-Campus

This area has a jumble of styles. Since it is a community type function though, the variety here is acceptable. The character of each building type should be preserved. As new buildings are built, however, the somewhat dated “styles” of the Ent Building and the theater should not be duplicated.

Form, Shape & Proportion

Roof Configuration

Both Mini-Campuses

- The predominant roof type should be flat to slightly sloped. Minimum slope ¼” vertical to 12” horizontal.
- Sloped roofs may be used to add interest at the roof line, but must fall behind the horizontal primary edge of the roof. The majority of this kind of use has occurred in the Community Periphery Mini-Campus. However, sloped roof elements should be carefully introduced into the Community Core Mini-Campus.



Sloped Roof at the Chapel

- Some type of screen treatment such as fascia panels shall be used to screen roof mechanical elements.
- Roof-top screens shall be integrated into the design of buildings in this area, using forms, materials and colors which match those used elsewhere on the building.
- The predominant geometry shall be orthogonal. However, angular geometry may also be used at visually prominent locations such as in association with entrances.

Community Core Mini-Campus

- The fascia panel shall act as a unifying visual element throughout this area, such that it is applied at the tops of primary entry/circulation design elements in a consistent manner.

Community Periphery Mini-Campus

- The articulated roof line, defined by a built-out fascia, as on the Chapel Building 1410, is to be encouraged.

Exterior Elevations

Both Mini-Campuses

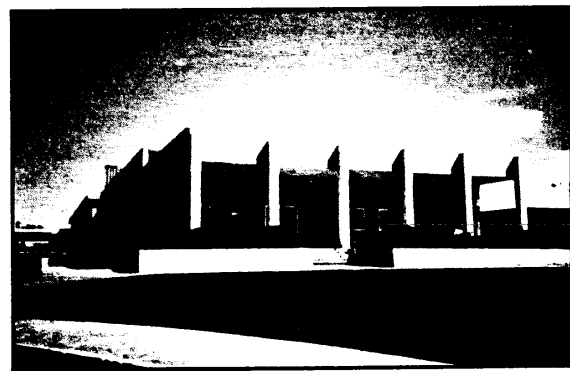
- Articulation of entries shall occur on all elevations to provide visually dominant design elements.
- Awnings may be provided at community - commercial buildings, at windows and entries where desirable. Awnings may employ circular or angular geometry in their construction, such as domes, barrel vaults and similar shapes common to the awning industry.

Community Core Mini-Campus

- These facilities shall have a predominantly horizontal emphasis. The public "face" shall be intricately treated

with design elements to break up large wall planes. Width/height ratio shall be not less than 3:1 at overall building elevations.

- The elevations of all buildings shall uphold the existing orthogonal lines. However, arcade design elements may adopt either angular or circular geometries. Such arcade elements must act as a dominant visual design feature, and shall incorporate important entries into their design.



Theatre

Community Periphery Mini-Campus

- The majority of buildings within this Mini-Campus have a square, "boxy" appearance. New structures should strive to match the overall character of existing adjacent building elevations and design character.
- Building elevations may employ angular, orthogonal or circular geometry, providing that the orthogonal is visually dominant.
- Changing wall planes, geometries, and related articulation techniques are encouraged for the definition of entries or other important high visibility building design elements.

Plan Geometry

Both Mini-Campuses

- A basic grid pattern framework shall be used for overall building layout.
- Throughout this character area, the orthogonal geometry shall be visually dominant. The circular geometry may be employed on buildings in the Community Periphery Mini-Campus, providing that the orthogonal geometry is visually dominant.
- All entrances shall be set back a minimum of four feet (4') from adjacent exterior wall planes.

Size, Massing & Scale

Building Height

Both Mini-Campuses

- Buildings in this area shall have a maximum of one story above ground.
- The maximum building height above grade shall not exceed twenty-five feet (25').
- Heights permitted in these guidelines may be constrained by airspace imaginary surfaces, particularly in areas of the character area which are close to a runway. In those instances, the imaginary surface restrictions shall take precedence.

Massing

Both Mini-Campuses

- All buildings shall be broken both horizontally and vertically into submasses, particularly where there is to be concentrated human activity such as at entries or arcades. This treatment will help reduce the apparent size of large buildings. It is important that the

submasses be sized and grouped according to the functional activities contained within the building.

Scale

For purposes of this guideline, three scales are as described below:

- Buildings with a gross square foot area between 200 and 5,000 shall be considered a small (residential) scale building.
- Buildings with a gross square foot area between 5,001 and 25,000 shall be considered a medium (commercial) scale building.
- Buildings with a gross square foot area of 25,001 and larger shall be considered a large (industrial) scale building.

Both Mini-Campuses

- A small commercial scale is required for buildings in the Community Periphery Mini-Campus. Buildings which would fall into this category have a gross area of between 5,001 and 15,000 square feet.
- The scale of the Community Core Mini-Campus buildings should also be commercial, but should approach the industrial end of the range (15,001 to 25,000 square feet).

Materials

Both Mini-Campuses

- Metal - aluminum or steel for all window and door frame systems, flashing systems, louvers, gutters, downspouts, and similar trim features. Also, standing seam roofing may be used. Window frame systems shall incorporate a thermal break feature throughout.
- Glass - 1" insulated at all window and door applications, tempered where required by

code. Laminated safety glass at sloped applications. ¼" glass at spandrel panel (opaque) locations.

- Awnings - shall be acrylic-painted cotton duck fabric, a traditional standard in the awning industry, minimum weight of 11 ounces per square yard. Awning framing and hardware may be steel or aluminum.
- Prohibited materials - wood, stucco, glass block, shingle roofing, standing seam metal siding, fiberboard sheathing, corrugated metal, metal lap siding, exposed aggregate concrete, concrete masonry units (CMU). These shall not be exposed to view on building exteriors.

Community Core Mini-Campus

- Brick masonry - additions to or repairs on existing buildings shall use matching brick size, texture, and patterns. Brick shall function as the primary exterior material on all buildings.
- Concrete - concrete with rustication techniques shall be used as the secondary exterior material on all buildings. Its use shall generally be limited to fascias and exposed structural design elements, similar to the BX/shops existing use of concrete.



Concrete Design Elements

Community Periphery Mini-Campus

- Brick - patterns, textures and sizes of brick can be drawn from any existing building in this area. Brick shall be the primary exterior material at all buildings.
- Prohibited materials - concrete fascia panels. These are prohibited in addition to those materials listed above for both mini-campuses.

Color Standards

Both Mini-Campuses

- Metal - Roofing materials used shall be factory finished dark bronze matching PPG #7611, Black Chocolate.
- Glass - all window and door glass shall be medium gray color of manufacturer's standard tint, visible light transmittance of 42% and shading coefficient of 0.64 for ¼" thick glass. Insulating glass units: daylight transmittance - 40% maximum; daylight reflectance (outdoors) - 8% maximum; shading coefficient (no shade) - 0.60 maximum.
- Awnings - colors may employ any of the following color ranges: beiges, tans, mats, or browns. These may be employed as solid colors or in striped patterns. Colors used must harmonize with each other, and with colors used elsewhere on the same building. Awning frame color shall match metal trim colors used elsewhere on the same building.

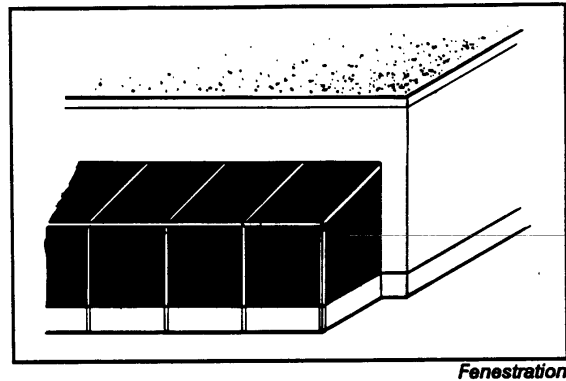
Community Core Mini-Campus

- Brick - Autumn Leaf Ripple (RBC) for commissary and all new buildings. Old Dutch (RBC) for BX Complex only.
- Metal - window and door frames shall be factory finished dark bronze color to match PPG #7611, Black Chocolate.

- Concrete - color shall be a light warm gray, matching the concrete color used on the existing BX building.

Community Periphery Mini-Campus

- Brick - any color of existing brick in this area may be used except for Heritage Antique (RBC).
- Metal - window and door systems shall be medium bronze in color, matching PPG #7632, Java



Fenestration

Both Mini-Campuses

- Careful consideration must be used in selection and placement of fenestration when energy efficiency is to be maximized. Windows on south facing walls shall be located below an overhang, where the minimum overhang depth shall be four feet (4').
- Horizontal and vertical alignment of fenestration units as a visual composition in the exterior building envelope is required.
- A minimum of one half (1/2) of the total window area used shall employ operable windows. All operable windows in this character area may be horizontal slider, awning, or casement type.

Community Core Mini-Campus

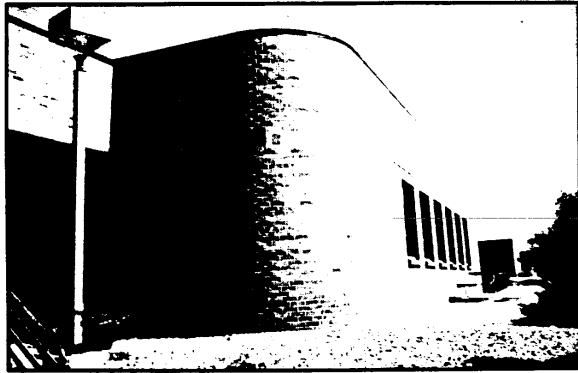
- A store front window and door system shall be employed at building entries in this area.
- Large service or garage door types shall be carefully screened from entries and similar "people" places.
- Large expanses of glazing systems shall only be used at arcades, malls and similar building submasses.

Community Periphery Mini-Campus

- Store front type systems shall be used at building entries and similar areas.
- Windows shall typically be used in a series of "punched" openings, spaced to produce a rhythmic pattern on the exterior elevations.

Detailing

- All detailing elements shall provide overall clean, crisp and uncluttered lines.
- Brick masonry - detailing with brick shall be expressed through the use of brick patterns which visually contrast with the standard running bond of the field brick. Such contrasting patterns may use soldier coursing, stack bonds, corbeling, header courses, rowlock courses, and similar masonry techniques.
- Fenestration - detailing shall be provided by the repetitive and rhythmic patterns of the metal framing systems. Where metal frames are not visually expressed on the exterior, butt glazing of the glass panels shall be employed.

*Brick Detailing**Brick with "Punched" Window Openings*

Miscellaneous

One area of concern for the base as a whole is the unrestrained proliferation of nonconforming facilities and structures such as those discussed briefly below. These specifically mentioned, and others like them, have become a troublesome visual liability in recent years, not only at Peterson AFB, but at other military installations as well. The EDG seeks to eliminate these sources of visual clutter to help make a cleaner more efficient environment.

- The use of supergraphics shall not be permitted on the exterior of any building, whether they are painted on or an applied type. Related morale signage promoting group logos and identification images shall not be permitted on the exterior of any building. All signage attached to buildings shall conform to those types

permitted in the comprehensive signage system. See the Site Elements Reference Library in Section Three.

- The following building types and storage facilities shall not be exposed to view in this character area: storage sheds, pre-manufactured (temporary) buildings, gazebos, miscellaneous utility structures, transformer buildings and CONEX boxes. These specifically mentioned, and others like them, shall be placed behind screen walls, typically in locations where such screen walls are an integral part of an adjacent building design. See the Site Elements Reference Library in Section Three.
- Awnings are encouraged for use over windows and entries in conjunction with shops and related community-commercial activities and buildings. Awnings shall not be permitted on any other building types within this character area. Awnings, when used sparingly, can impart a more "festive," lively atmosphere to commercial activities.
- All ancillary buildings shall match the general design character, forms, materials, and colors of the particular character area and mini-campus where they are physically located.

Landscape
COMMUNITY CENTER CHARACTER AREA
Design**Matrix**

The Landscape Design Matrix on this page, and the Site Elements Matrix following, have been developed to provide easy reference to applicable guidelines contained in Section Three. The Landscape Design Reference Library and the Site Elements Reference Library, both located in Section Three, are referenced by guideline number to the particular area of design listed in these matrixes.

CHARACTER AREA: COMMUNITY CENTER		
LANDSCAPING ELEMENTS	GUIDELINE/ ITEM NO	PAGE
Streetscapes	LD-1	303
Building Related Landscaping	LD-2, LD-2.02	317, 323
Parking Lot Landscaping	LD-3	355
Base Entrance Landscaping	LD-4	361
Intersections Landscaping	LD-5	363
Screen/Accent Landscaping	LD-6	367

Site	Elements	Matrix
COMMUNITY CENTER CHARACTER AREA		

CHARACTER AREA: COMMUNITY CENTER		
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Lighting General Design Criteria	SE-4	233
Street Lighting	SE-4.01	239
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PART THREE - WEST GATE CHARACTER AREA

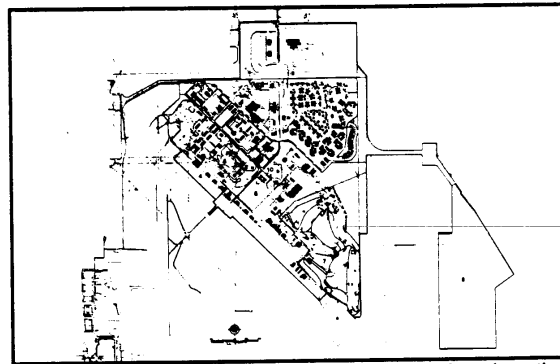
1. LOCATION AND CHARACTER

The West Gate Character Area is bounded on the east by Peterson Boulevard, on the north by Stewart Avenue, on the south by Ent Avenue, and on the west by the installation boundary in the vicinity of the West Gate. This part of Peterson AFB is really a transitional zone between the Community Center to the north, and the more industrial, warehouse districts to the south. It also serves as part of the “front room” base entry for incoming traffic using the West Gate on Stewart Avenue. This fact, and the area's proximity to the Community Center, will bring a heightened visibility to this area. This trend will continue into the future when Powers Boulevard (off base) is expanded into a six-lane expressway, bringing even more traffic through the West Gate and onto Stewart Avenue.

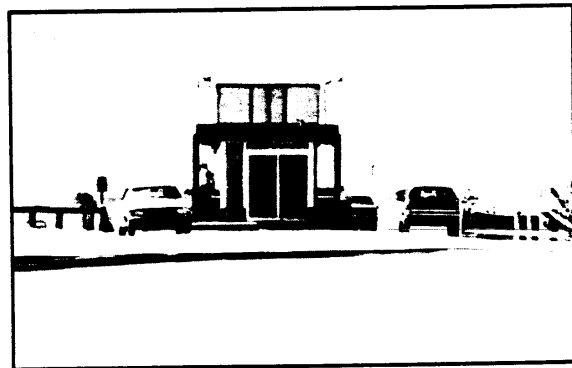
There currently are four rather distinct groups of buildings within this character area. At the western end of the area, the engineering complex has a separate angular building design statement. East of that, the transportation complex also has a separate building design statement. Farther east, the dormitory housing is by function and building type a separate group of buildings. At the east end of this character area, there is a group of buildings which by function and overall use is similar to the Community Center. However, they are different in that their usage and exposure is more remote, and somewhat less “public”, than the Community Center.

As Stewart Avenue continues to develop in traffic count and importance, there will be a growing need to provide a new West Gate. The existing West Gate is poorly located in relation to adjacent streets. The existing western terminus of Ent Avenue occurs immediately adjacent the gate, creating numerous traffic hazards and inconveniences.

A planned change for Ent Avenue will extend the street in a straight extension of its current alignment (northwest-southeast), creating a new intersection with Stewart Avenue immediately west of Sand Creek. To accommodate these new changes, to improve overall traffic flow, and to keep security intact, a new West Gate must be built further west on Stewart Avenue. This structure, and all related structures such as an MP station or visitor pass processing- building, will need to match the nearest mini-campus. The nearest one is the engineering complex. Thus all forms, materials and colors for all new gate and related structures must conform to the building design guidelines applicable to the Engineering Mini-Campus.

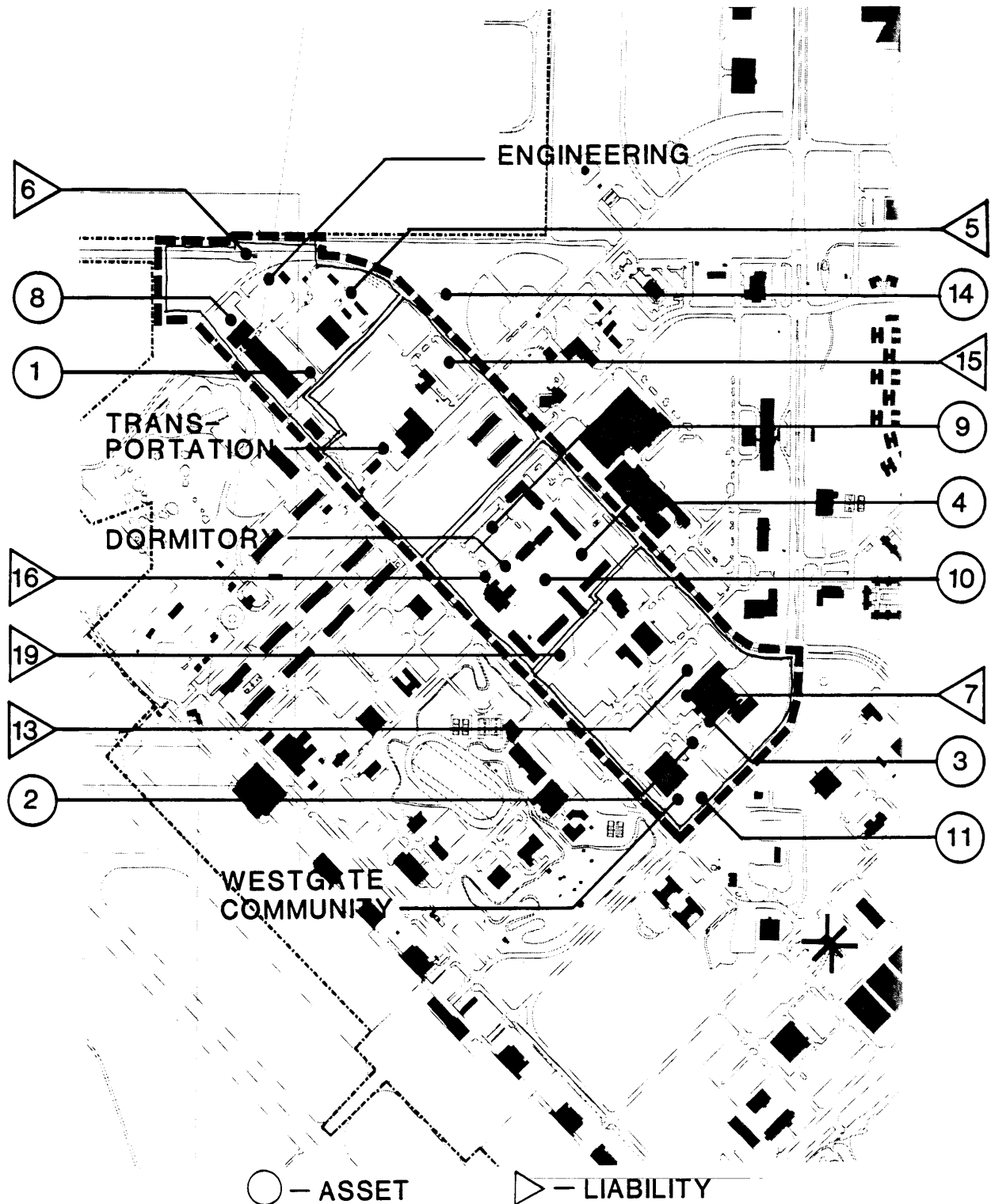


West Gate Character Area Location



West Gate on Stewart Avenue

West Gate Character Area

ASSETS AND LIABILITIES KEY MAP

Assets and liabilities listed, but not specifically illustrated, are area wide.

2. ASSETS AND LIABILITIES

The visual assets and liabilities identified in this portion of the report are specific to the West Gate Character Area. Observations have been made in the three primary areas of building design, landscape design, and site elements. These positive and negative aspects form the foundation of the specific criteria/design guidelines in addition to providing a list of “dos and don’ts” for this character area

BUILDINGS

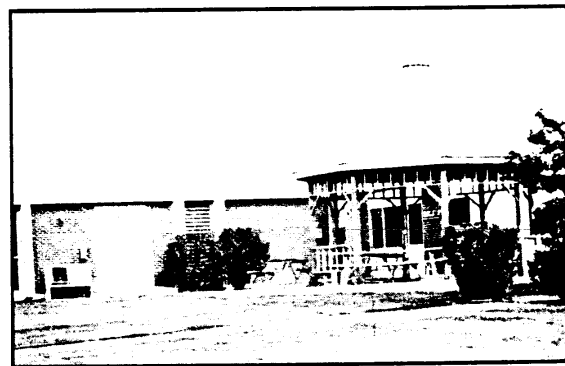
1. ASSET - Major facilities in the Engineering mini-campus area are excellent permanent buildings. The brick used as the primary material and subordinate concrete fascia elements come together in forms that are pleasing and appropriate for the functions accommodated.



Effective Use of Materials

2. ASSET - The Clinic and NCO Club are both substantial brick and concrete buildings that set the tone for the eastern end of this character area.
3. ASSET - The south side of the Clinic is a superior example of screen walls that extend from the main structure. This provides a coordinated and clean appearance.

4. ASSET - The dormitory buildings exhibit a consistent size, scale, and use of brick. This helps to form a cohesive character for this campus area.
5. LIABILITY - The ancillary structures in this area are a serious distraction. These smaller support buildings are not in keeping with the primary architectural theme established by the major facilities. The relatively bright orange color draws attention to elements that should be receding. Warm grey concrete tones (matching adjacent concrete colors) would be more beneficial.
6. LIABILITY - The gate house structure and surrounding areas create a visual first impression that is no longer accurate or beneficial. This area is one of the major “gateways” to a very important Air Force installation and it should look important.
7. LIABILITY - The wood pavilion located on the south side of the Clinic is unfortunate because of the marked contrast with the primary facility. Pavilions and other separate support buildings must be visually compatible with the context of adjoining major buildings or they create an undisciplined clutter.



Unacceptable Contrast Between Gazebo and Clinic Facility

LANDSCAPE

8. ASSET - The landscaped area northwest of BCE Building 1324 represents an asset due to its maturity and superior maintenance.
9. ASSET - These parking areas have screening provided around the perimeter in addition to parking lot trees. This treatment must be encouraged in future projects.

*Screened Parking*

10. ASSET - The open space has an abundance of mature plants and turf that combine to form a great focal area for the dormitory "campus" portion of this character area.
11. ASSET - The mature landscaped areas along Peterson Blvd. are very attractive and should be preserved.
12. LIABILITY - Building entry areas have not been accented with landscaping. A small amount of landscape treatment can pay big dividends at these high impact areas.
13. LIABILITY - Large parking lots lack trees and screening from adjacent primary roads.

SITE ELEMENTS

14. ASSET - The aircraft display area helps to tie this area with the rest of Peterson AFB. Its

location near a busy intersection is also a positive attribute.

15. LIABILITY - Parking lots are not sufficiently separated from nearby structures and have not provided an appropriate "front door" area.
16. LIABILITY - Service/dock area is located at the end of the main entry road and forms a natural, inappropriate focal point.

*Service Dock Inappropriate Focal Point*

17. LIABILITY - Signage is inconsistent and lacks a predictable visual hierarchy.
18. LIABILITY - Trash dumpsters are usually located in visually prominent spots with no screening. This consistent practice has a very detrimental visual impact on the area.
19. LIABILITY - This south end of the dormitory campus area suffers due to a lack of landscaping and haphazard maintenance.

3. OBJECTIVES

The four separate architectural/functional areas within this character area should continue to be kept visually separate, but should work together more closely as one visual whole.

a. Concept Statement

The overall concept for this character area is to create visual unity within the framework of four diverse mini-campuses already in place, using the following main points:

- Numerous miscellaneous buildings on the east side of the Engineering Complex should be studied to find ways to make them less visually prominent. Through consistent application of materials and colors, these smaller structures can start to blend into their mini-campus, rather than being visually incompatible.
- The dormitory area should be treated more carefully as a residential area surrounded by non-residential activities. Currently, this area loses visual and physical identity because of its context within the base. Because this mini-campus is physically mature, the two key design disciplines to help create this identity will be landscaping and site elements. In addition, alteration projects planned for the dormitories will help introduce common materials and colors to help further distinguish this mini-campus in a handsome manner.
- Preservation of the Peterson Corridor Open Space Preserve at the east end along Peterson Boulevard should be a high priority for this character area. This particular area is presently landscaped and is a visual asset. New building projects should not be allowed to encroach upon this preserve.
- The four mini-campuses identified in this area are already physically mature, and have used forms, materials, and colors which are mutually exclusive. However, a

subtle use of common building materials and colors can help bring about a visual unity for the entire character area, while allowing each mini-campus to have a slightly different character.

b. Landscape Objectives

The objectives of landscape improvements for this character area are:

- Create a more unified appearance within the area.
- Create a smooth transition from the commercial center to the north and the industrial and warehouse uses located to the south.
- Create a more enjoyable pedestrian environment for people living in the dormitory area.

4. GUIDELINES

a. Introduction

The guidelines for the West Gate Character Area are divided into three distinct but interrelated disciplines: building, landscape and site elements design. Each set of guidelines has been developed to help implement the physical manifestation of ideas and concepts discussed in earlier parts of this EDG.

The building design guidelines are included here in Part Three of Section Two. The landscape and site elements guidelines may be found in the reference libraries in Section Three. Matrixes are included here to directly cross-reference those guidelines applicable to the West Gate Character Area.

**Guideline
Building
WEST GATE CHARACTER AREA**
Design
**BD-3
Guidelines**

The information presented on the general character, visual assets and liabilities, objectives, and overall concept for the West Gate Character Area must now be synthesized with respect to the environmental design influences and principles, and general building design considerations discussed in Section One. The amalgamation of these factors will facilitate and direct the building design process.

The building design guidelines control visual design issues such as form, material and color. Other matters which will not be addressed in these guidelines include building function (program requirements), building interiors, and overall layout of floor plans. Existing positive visual design qualities will be enhanced and encouraged for use in new facilities, while negative qualities will be discouraged.

Design Character

Many building design types have evolved throughout this area. The result is a need to divide the area into four separate mini-campuses with distinct characteristics, but which are related through devices not specifically of building design.

Engineering Mini-Campus

The character of this mini-campus, as the visual focus of the west gate entrance area, must have a public face. The engineering complex, comprised of Buildings 1322 and 1324, is the precedent for an appropriate solution, with its neat, office building profile.

Transportation Mini-Campus

The utilitarian nature of this area is an important factor in its character. The resulting large, unarticulated buildings are, however, pulled

together by the unique mono-pitch roof. This building type can easily be expanded and upgraded to create a visually strong mini-campus.

Dormitory Mini-Campus

The dormitory, campus atmosphere is well established in this mini-campus. The medium density character of the area should continue. Much of the building design character is already set. However, several design elements can be manipulated to more effectively unify the area.

A current remodeling project is proposed for Building 1102. The project will change the overall building orientation from an interior double-loaded corridor to one where all building circulation will be outside along both long sides of the building.

This will appreciably alter the design character of Building 1102. Further, all existing dorms will be remodeled in like manner in future years. Thus the basic character of the entire mini-campus will be altered from what is there now. The building design guidelines have been tailored to accommodate these major changes specific to the Dormitory Mini-Campus.

Westgate Community Mini-Campus

The NCO Club, Library, Clinic, and NCO/Education building begin to work together because of similar building design elements, suggesting the direction the character of this area should take. These buildings characterize the small, upscale commercial or office building with the attention to detail and scaling which have been demonstrated.

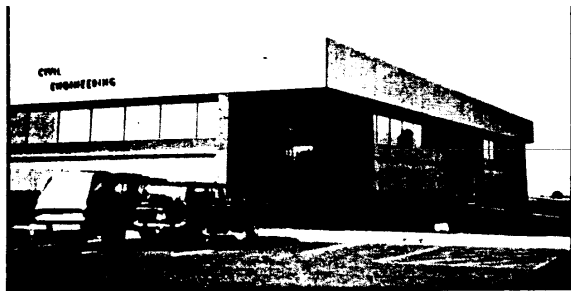
The following guidelines establish design parameters from which the four individual design characters will emerge.

Form, Shape & Proportion

Roof Configuration

Engineering Mini-Campus

- The “flat” to slightly sloping roof shall be used exclusively throughout this area. Minimum slope shall be ¼” vertical to 12” horizontal.
- All buildings must use a concrete fascia panel system as used on the Engineering complex Buildings 1322 and 1324.
- The concrete fascia panels or other edge treatment must be employed to screen roof structural elements.
- The continuous, unbroken horizontal roof lines shall be preserved at the concrete fascia panels, and excessive use of wall plane or geometric changes should be avoided.

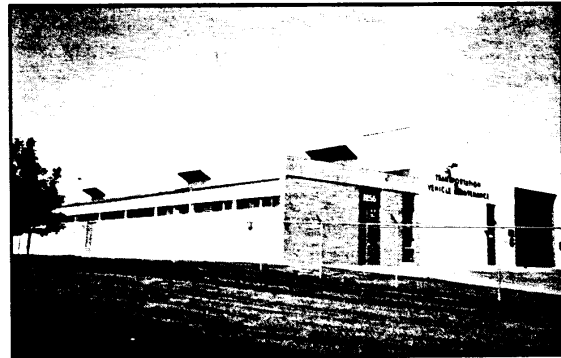


Fascia Panels

Transportation Mini-Campus

- The existing mono-pitch, shed-type roof shall be a dominant design element in this area, and shall be used for all the larger, visually dominant building masses. Smaller submasses may use “flat” roofs, where the minimum slope is ¼” vertical to 12” horizontal.

- Following the precedent of the existing buildings, the “front” of each building, generally under the high point of the roof pitch, should employ a metal roof fascia and the accompanying row of windows and doors below the fascia.
- Plane changes in the roof lines and fascia may be used as a design element to emphasize entries.



Roof Line and Fascia

Dormitory Mini-Campus

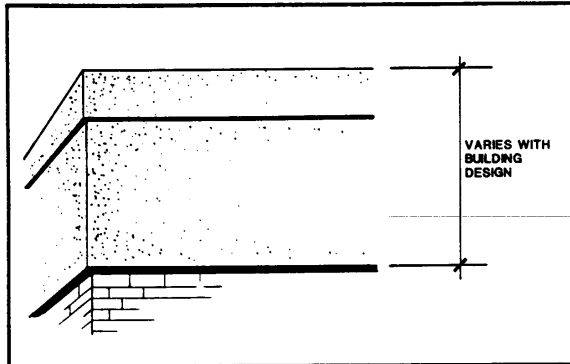
- Two roof types shall be employed in this area. The low sloped “flat” roof presently used predominantly, shall be preserved and must function as the visually dominant roof type. A sloped roof element shall be employed as a secondary roof above main stairs and main building entry areas.
- Exposed concrete fascia shall be employed as a screening element at the flat roof line.
- On the sloped roof buildings, a metal edge cover treatment shall be used to screen all roof structural members.
- Roof design elements exposed to view shall follow the angular geometry exclusively.

Westgate Community Mini-Campus

- The “flat” or slightly sloped roof shall be a dominant visual element in the overall

building design. The minimum slope should be no less than 1/4" vertical to 12" horizontal.

- The concrete fascia panel shall continue to be an important building element, visually tying the buildings together into a unified group.



Fascia Panel Detail

- Extensive use of changes in geometry or wall plane should be used to add visual interest and provide variety to the building exterior.
- Roof design elements exposed to view shall follow exclusively the orthogonal geometry.

Exterior Elevations

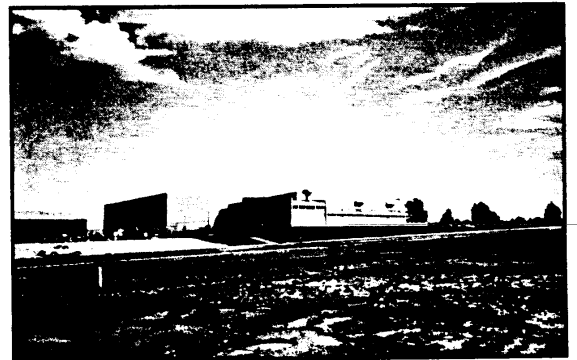
Engineering Mini-Campus

- The building elevations in this area shall appear predominantly horizontal. The overall building width/height ratio shall not be less than 3:1.
- Both orthogonal and circular geometries may be employed here, provided that the circular geometry is used only as focal point entry elements.
- Minimal use of wall plane change shall occur in this area.

- Building entrances, fenestration and garage type doors should be emphasized in some manner, visually breaking up the building elevation below the horizontal fascia panels.

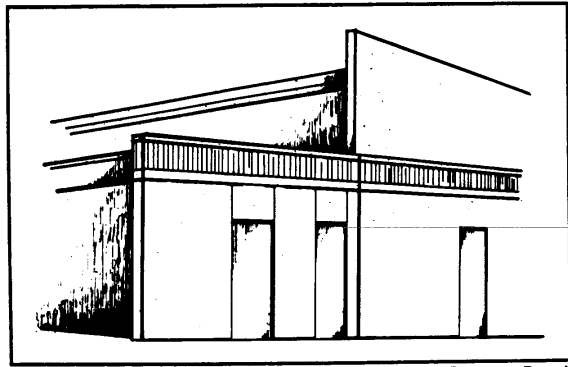
Transportation Mini-Campus

- In this area, the dominant elevation characteristic shall diverge from the familiar horizontal emphasis so common at Peterson AFB. These buildings lend themselves to a much more square appearance than many other buildings on the base and should pursue that style.
- Circular geometry shall not be used in this area although both orthogonal and angular are appropriate. Angular geometry should be visually dominant at the roof line and at related focal points such as entries.



Transportation Complex

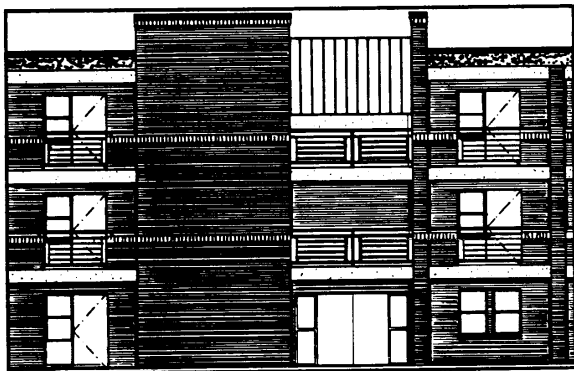
- Changes in wall plane or geometry are encouraged for entry area emphasis and when building function changes from people (offices) to non-people (maintenance) usage.
- An accent feature shall extend around the building at a height immediately above the heads of both doors and windows. The accent feature shall not use circular or angular geometry along its length.



Accent Feature Detail

Dormitory Mini-Campus

- The horizontal emphasis of these buildings should be continued. Width/height ratio of the overall exterior elevations shall not be less than 2:1.
- The horizontal emphasis shall be broken both vertically and horizontally by design elements expressed on the exterior. Vertical elements must be expressed by masonry columns and walls, spaced in a rhythmic pattern responding to individual tenant units. Horizontal elements must be expressed by exposed edges of structural floors and roofs. Such horizontal and vertical elements shall be the dominant visual expression at each elevation. A second wall plane shall be provided behind the expressed structure, which contains all fenestration units.



Dormitory Elevation Detail

Westgate Community Mini-Campus

- The horizontal emphasis should not be as predominant in this area as in the other three mini-campuses. Exterior elevation width/height ratio shall be between 2:1 and 4:1.
- Wall plane changes and other similar detailing shall be used extensively to add to the upscale, high profile character of this area. Numerous concrete "eye brows" were used with windows at the Clinic, Building 959. This and similar types of detailing are encouraged for this mini-campus.



Window "Eye Brow" Detail

Plan Geometry

All Mini-Campuses

In general, the grid shall be used as the basic framework for overall building layout. All plans shall follow the orthogonal geometry, except for entry areas at the Engineering mini-campus, where circular geometry may be used.

Size, Massing & Scale

Building Height

All Mini-Campuses

The maximum building height shall be forty-five feet (45'). At the Dormitory mini-campus, there

shall be a required continuance of the three (3) story building type to preserve the character of that area.

- Heights permitted in these guidelines may be constrained by airspace imaginary surfaces, particularly in areas of the character area which are close to a runway. In those instances, the imaginary surface restrictions shall take precedence.

Massing

Engineering Mini-Campus

This mini-campus shall preserve its existing character, using fenestration and other integral details of design to break up apparent masses, rather than actually breaking overall visual bulk into submasses.

Building massing shall generally continue to use one or two masses per building. However, such masses shall be visually broken all along the exterior by the vertical and horizontal required design elements. Thus the massing is visually complicated by exterior balconies and circulation areas.

Transportation and West Gate Community Mini-Campuses

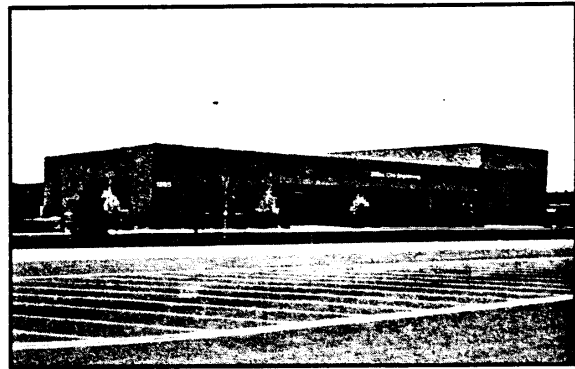
Submasses in these mini-campuses shall be sized and grouped to accommodate functional activities contained within the buildings. This approach should be used more extensively in the Westgate Community mini-campus.

Scale

All Mini-Campuses

Buildings are classified as one of the three scales as described below.

- Buildings with a gross square foot area between 200 and 5,000 shall be considered a small (residential) scale building.



Building Submass Groups

- Buildings with a gross square foot area between 5,001 and 25,000 shall be considered a medium (commercial) scale building.
- Buildings with a gross square foot area of 25,001 and larger shall be considered a large (industrial) scale building.

Buildings with a gross square foot area below 5,000 (residential scale) or above 25,001 (industrial scale) shall not be permitted in this character area. The buildings in this area shall be of commercial scale, matching the predominant existing scale. The scale of temporary storage sheds is not appropriate to these mini-campuses. In general, it is recommended that all small storage facilities be combined into new, larger scale buildings of the appropriate style for each mini-campus.

Materials

All Mini-Campuses

The following materials are common to all of the mini-campuses.

- Metal - aluminum or steel for all window and door frame systems, louvers, flashing systems, gutters, downspouts, and similar trim features. Window frame systems shall incorporate a thermal break feature throughout.

- Glass - 1" insulated at all window and door applications, tempered where required by code. Laminated safety glass at sloped applications. ¼" glass at spandrel panel (opaque) locations.

Engineering Mini-Campus

- Brick masonry - brick shall be used as the primary building material, with Buildings 1322 and 1324 as the pattern. Brick shall be consistently used below the concrete fascia in establishing a trademark design statement.
- Architectural concrete - for the fascia, patterned or vertical ribbed as used on Buildings 1322 and 1324.
- Metal - vertical siding and standing seam roofing, for use on temporary storage buildings only. This material applies only to existing miscellaneous metal buildings. New metal buildings of this type shall not be permitted.
- Prohibited materials - wood, stucco, glass block, fiberboard sheathing, corrugated metal, metal lap siding, and concrete masonry units (CMU) shall not be exposed to view on building exteriors.

Transportation Mini-Campus

- Concrete masonry units (CMU) - the primary building material shall be 8" x 16" face size units. For all CMU, a minimum of eighty percent (80%) of the wall surface shall use ribbed split face CMU. The remaining wall surface area shall use standard finish CMU.
- Brick masonry - horizontal accent features of brick shall be used to accent building elevations. The accent feature must use the brick in the form of soldier coursing.
- Metal - standing seam fascia panels shall be used, and shall match the standing

seam roofing which is used at the sloped roof areas.

- Prohibited materials - architectural concrete, stucco, glass block, wood, fiberboard sheathing, corrugated metal, and metal lap siding.

Dormitory Mini-Campus

- Brick masonry - size and bond patterns shall follow the precedent of existing buildings. New buildings shall use brick masonry running bond pattern, with contrasting coursing techniques used for visual interest.
- Metal - aluminum or steel roofing at all sloped roof applications, complete with all metal accessories and closure items required.
- Metal - steel pipe handrails shall be used as a dominant horizontal visual material at all elevations along all exterior circulation paths.
- Concrete - shall be exposed to view at structural slab edges in conjunction with exterior circulation paths. These exposed concrete edges shall be used at the roof and at all floor slabs above the ground floor, and must be used in tandem with the required pipe handrails.
- Prohibited materials - wood, stucco, glass block, concrete masonry units, fiberboard sheathing, corrugated metal, metal lap siding, shall not be exposed to view on building exteriors.

Westgate Community Mini-Campus

- Brick masonry - shall match the size, style, and bond patterns used at the NCO/education office, Building 1141.
- Architectural concrete - with exposed aggregate shall be used for all fascia panels and when

required at foundation level to match an existing building material or style.

- Prohibited materials - wood, stucco, glass block, concrete masonry units, fiberboard sheathing, corrugated metal, metal lap siding, shall not be exposed to view on building exteriors.
- Awnings - shall be acrylic-painted cotton duck fabric, a traditional standard in the awning industry. minimum weight of 11 ounces per square yard. Awning framing and hardware may be steel or aluminum.

Color Standards

The colors for the West Gate Character area all belong to the earth-tone range, and directly respond to the existing color palette in use across Peterson Main as a whole.

Accent features and similar architectural building design features will be drawn from the same color palette, but colors will generally be darker or richer than the primary material colors.

Engineering Mini-Campus

- Brick masonry - shall match that used at Buildings 1322 and 1324. Brick color is Meadow Hills (RBC).
- Architectural concrete - shall match the warm grey previously used in the fascia panels on Buildings 1322 and 1324.
- Metal - pedestrian doors and frames, miscellaneous trims, and garage door frames, match PPG Black. Garage doors, match PPG #2540, Altamont. Windows, clear anodized.
- Metal - both roofing and siding shall be painted to match the warm gray of the architectural concrete at Buildings 1322 and 1324. This

applies only to metal at miscellaneous buildings previously built in this mini-campus.

- Glass - all window and door glass shall be medium gray color of manufacturer's standard tint, visible light transmittance of 42% and shading coefficient of 0.64 for ¼" thick glass. Insulating glass units: daylight transmittance - 40% maximum; daylight reflectance (outdoors) - 8% maximum; shading coefficient (no shade) - 0.60 maximum.

Transportation Mini-Campus

- Concrete masonry units (CMU) - these units shall be painted to match PPG #3490, Frosted Chocolate.
- Brick masonry - this element shall be of the tan-to-yellow brick used on parts of the existing buildings, and shall match Yellow Buckskin (RBC).
- Metal - a reddish brown color shall be chosen for the treatment of all metal items and roof elements. The color shall complement the brick accent belts, and draw from the reddish brick used at each of the three areas to the east, west and north of this mini-campus. The color used shall match PPG #4253, Navajo Red.
- Glass - all window and door glass shall be medium gray color of manufacturer's standard tint, visible light transmittance of 42% and shading coefficient of 0.64 for ¼" thick glass. Insulating glass units: daylight transmittance - 40% maximum; daylight reflectance (outdoors) - 8% maximum; shading coefficient (no shade) - 0.60 maximum.

Dormitory Mini-Campus

- Brick masonry - the brick Heritage Antique (RBC) shall be used for all new buildings. Existing buildings shall use brick to match the original for any additions or repairs. Should an unmatched brick have to be used, there shall be a wall/roof

plane change or other similar design element used to detract from the obvious difference. See the Building Design General Considerations in Section One for an explanation of this type of situation.

- Metal - at sloped roofing shall be a rust color compatible with the existing brick colors. The color shall match PPG #7245, Really Rust.
- Metal - parapet cap flashing and top horizontal rail at all handrails, color shall match PPG #7245, Really Rust. At all other horizontal and vertical parts at all handrails, color shall match PPG #7611, Black Chocolate. At all window frames and door frames use dark bronze at aluminum, or match PPG #7611, Black Chocolate at steel applications. Exterior doors use PPG #3603, Rosy Tan.
- Concrete - natural warm grey color at all applications exposed to view, except exposed concrete at the upper part of the fascia, where the color shall match PPG #3603, Rosy Tan.
- Glass - all window and door glass shall be medium gray color of manufacturer's standard tint, visible light transmittance of 42% and shading coefficient of 0.64 for ¼" thick glass. Insulating glass units: daylight transmittance - 40% maximum; daylight reflectance (outdoors) - 8% maximum; shading coefficient (no shade) - 0.60 maximum.

Westgate Community Mini-Campus

- Brick masonry - shall match that used at the NCO/education office, Building 1141, Walnut (RBC).
- Metal - shall be painted dark brown at all window and door frame systems, louvers, flashing systems, gutters, downspouts, and similar trim features. The color shall match PPG #7611, Black Chocolate.

- Architectural concrete - shall match the color used on the library, Building 1171.
- Glass - all window and door glass shall be medium gray color of manufacturer's standard tint, visible light transmittance of 42% and shading coefficient of 0.64 for ¼" thick glass. Insulating glass units: daylight transmittance - 40% maximum; daylight reflectance (outdoors) - 8% maximum; shading coefficient (no shade) - 0.60 maximum.
- Awnings - colors may employ any of the following color ranges: beiges, tans, rusts, browns, blues, or white. These must be employed as solid colors. Colors used must harmonize with each other, and with colors used elsewhere on the same building. Awning frame color shall match metal trim colors used elsewhere on the same building.

Fenestration

It is important that fenestration visually complement the building functional needs which are served. The size and number of openings should be determined after careful consideration of lighting, views, and ventilation needs. The visual composition of a building depends heavily on the horizontal and vertical alignment of fenestration units. Fenestration should be chosen carefully to match the building character under consideration.

All Mini-Campuses

- Careful consideration must be used in selection and placement of fenestration when energy efficiency is to be maximized. Windows on south facing walls shall be located below an overhang, where the minimum overhang depth shall be four feet (4').
- A minimum of one half (1/2) of the total window area used shall employ operable windows. All operable windows in this character area shall be

awning or casement type for the Engineering, Transportation, and Westgate Community Mini-Campuses. For the Dormitory Mini-Campus, double hung type shall be used.

Engineering Mini-Campus

- Main entries shall employ the glass store front-type framing system. Other doors shall be standard metal systems, and shall coincide in overall frame height with the brick masonry, such that the frame system does not go above the top of the brick.
- Where office type activities prevail, horizontal bands of windows shall be employed. Where main uses are storage or maintenance, fewer vertically oriented windows will occur.

Transportation Mini-Campus

- The high narrow horizontal bands of windows must be provided in tandem with the roof fascia panels and as is appropriate for other places in the exterior elevations.



Transportation Window/Fascia Panel Relationship

Dormitory Mini-Campus

- Sloped roof dormitories shall uphold the use of horizontally aligned, double hung window systems. Kisling and Challenger Halls should preserve their individual window types. New

buildings should use the fenestration style of one of the existing adjacent dormitories, to provide design and visual continuity.

Westgate Community Mini-Campus

- Horizontally banded windows, as used on the NCO/Education Building 1141, are appropriate for public, office-type buildings. The narrow, vertically oriented windows may be more appropriate to some buildings and may be used, but are not recommended for this mini-campus.



Window Detail

Detailing

All Mini-Campuses

- All detailing shall provide overall clean, crisp, and uncluttered lines.
- Brick masonry - detailing with brick shall be expressed through the use of brick patterns which visually contrast with the standard running bond of the field brick. Such contrasting patterns may use soldier coursing, stack bends, corbeling, header courses, rowlock courses, and similar masonry techniques.
- Fenestration - detailing shall be provided by the repetitive and rhythmic patterns of the metal framing systems.

- Horizontal accent features shall be expressed at all elevations on buildings where they are used as an exterior design element.

Miscellaneous

One area of concern for the base as a whole is the unrestrained proliferation of nonconforming facilities and structures such as those discussed briefly below. These specifically mentioned, and others like them, have become a troublesome visual liability in recent years, not only at Peterson AFB, but at other military installations as well. The EDT seeks to eliminate these sources of visual clutter to help make a cleaner more efficient environment.

- The use of supergraphics shall not be permitted on the exterior of any building, whether they are painted on or an applied type. Related morale signage promoting group logos and identification images shall not be permitted on the exterior of any building. All signage attached to buildings shall conform to those types permitted in the comprehensive signage system. See the Site Elements Reference Library in Section Three.
- The following building types and storage facilities shall not be exposed to view in this character area: storage sheds, premanufactured (temporary) buildings, gazebos, miscellaneous utility structures, transformer buildings and CONEX boxes. These specifically mentioned, and others like them, shall be placed behind screen walls, typically in locations where such screen walls are an integral part of an adjacent building design. See the Site Elements Reference Library in Section Three.
- Awnings are encouraged for use over windows and entries in conjunction with shops and related community-commercial activities and buildings in the Westgate Community Mini-Campus only. Awnings shall not be permitted

on any other building types within this character area. Awnings, when used sparingly, can impart a more “festive,” lively feeling to the commercial activities.

- All ancillary buildings shall match the general design character, forms, materials, and colors of the particular character area and mini-campus where they are physically located.

Landscape Design

WEST GATE CHARACTER AREA

Matrix

The Landscape Design Matrix on this page, and the Site Elements Matrix following, have been developed to provide easy reference to applicable guidelines contained in Section Three. The Landscape Design Reference Library and the Site Elements Reference Library, both located in Section Three, are referenced by guideline number to the particular area of design listed in these matrixes.

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Intersections Landscaping	LD-5	363
Screen/Accent Landscaping	LD-6	367

Site	Elements	Matrix
WEST GATE CHARACTER AREA		

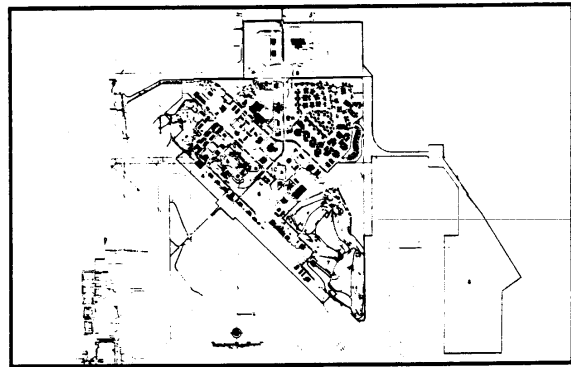
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PART FOUR - INDUSTRIAL CHARACTER AREA

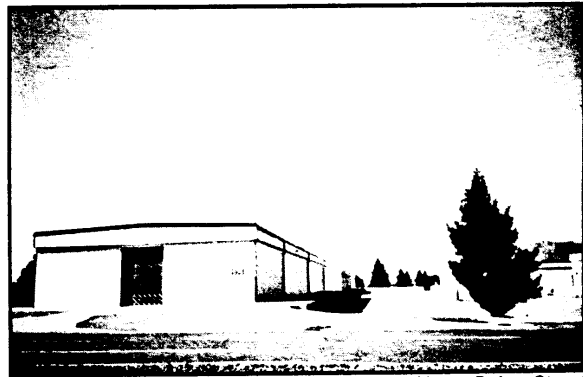
1. LOCATION AND CHARACTER

The Industrial Character Area, as its name implies, occupies the industrial western segment of the base. Its north and east edges parallel Ent Avenue, Otis Street, and then slice eastward along the south edge of the recreation complex. The western-most portions of this character area are constrained by the clear zone, primary surface, and approach- departure clearance surface, all relating to the Colorado Springs Municipal Airport's existing north-south runway. Future buildings permitted within these areas will be limited.

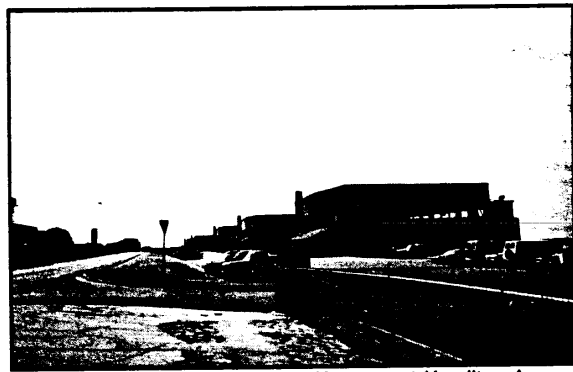
Much of the north half of the industrial area consists of warehouses painted a beige color. Most of the buildings in the south half, straddling Hamilton Avenue, are a dark bronze color. This particular group of buildings has in the past been directly linked to flight line functions. Currently, and in the future, this emphasis is projected to shift from a flight line orientation to more of a warehouse and storage function. This process will be gradually accomplished over many years, but this development will certainly change the flavor of this character area.



Industrial Character Area Location

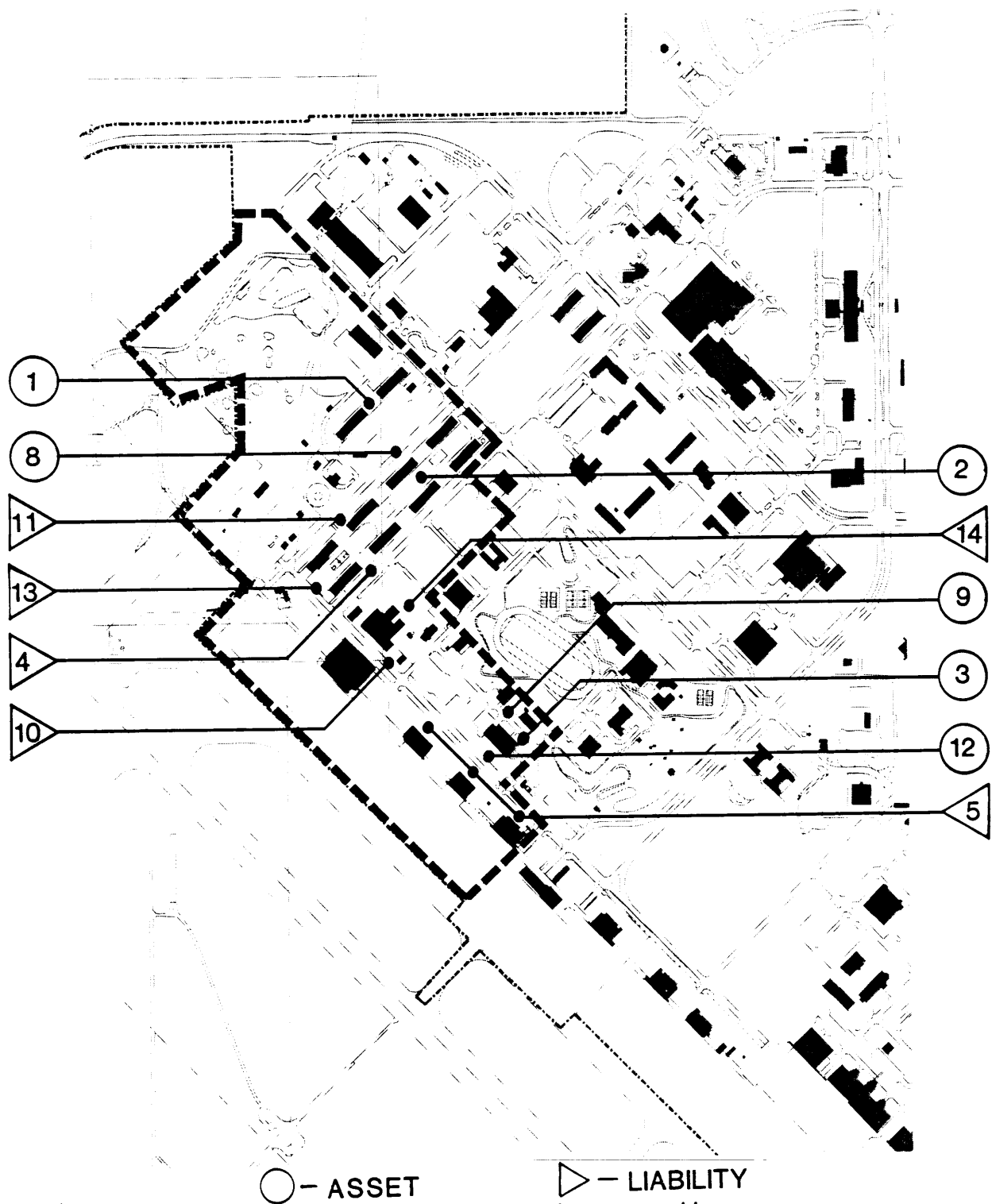


Warehouse Area Along Paine Street



Hangars at Hamilton Avenue

Industrial Character Area ASSETS AND LIABILITIES KEY MAP

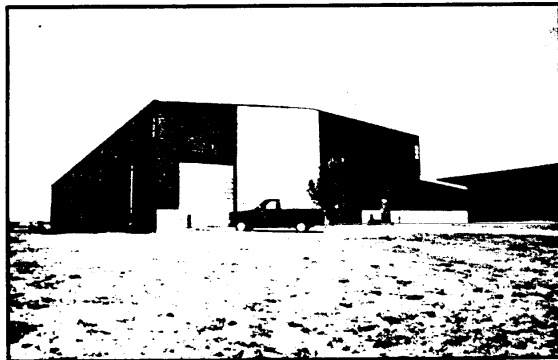


2. ASSETS AND LIABILITIES

The visual assets and liabilities identified in this portion of the report are specific to the Industrial Character Area. Observations have been made in the three primary areas of Building Design, Landscape Design, and Site Elements. These positive and negative aspects form the foundation of the specific criteria/design guidelines in addition to providing a list of “dos and don’ts” for this character area.

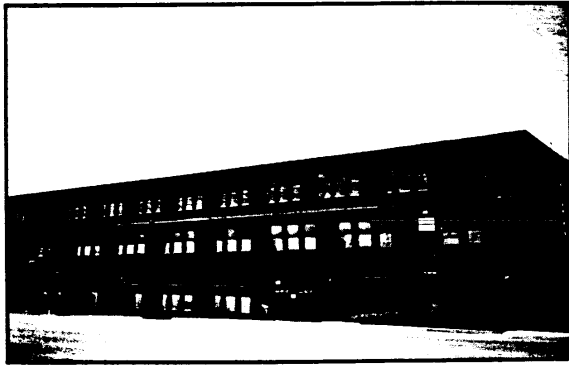
BUILDINGS

1. ASSET - Buildings 670 and 672 have been consistent in building form, detailing, and beige color. This is advantageous because of their location within the character area and their function. They present a clean, orderly appearance.
2. ASSET - The six warehouse structures to the north display a fairly consistent and suitable image for the industrial area. The same building forms, materials, and beige/tan color all contribute to a cohesive appearance. Slight differences in trim treatment can easily be corrected in the future.



Building 502

3. ASSET - The secondary use of the tan brick on Buildings 502 and 503 is an asset because it gives a small amount of visual variety and provides a common tie to the adjacent character areas.
4. LIABILITY - Buildings 650 and 652 are clearly activity areas with a number of personnel working in the area. These buildings should visually belong to the rest of the warehouse structures; however, they desperately need some special architectural treatment at the entries to distinguish them as important people places.
5. LIABILITY - These three buildings along the flight line all have a different shingle color on the lower masses facing the street. A standard, consistent approach should be introduced to minimize visual confusion and clutter.
6. LIABILITY - Trim colors and materials have been inconsistently used in this character area. This appears to be especially chaotic when contrasted with the very strict standardization of primary building color.
7. LIABILITY - A general liability for the entire southern portion of this character area is the overpowering and monotonous use of a very dark olive/brown building color. This approach to color is inappropriate because it is used for primary, secondary, trim, and miscellaneous materials. This relatively dark color is probably a valid concept to minimize the scale of these structures; however, it should be slightly lighter to lessen the contrast and must also include a moderate amount of color variation for associated trim materials.



Hangars near Hamilton Avenue

LANDSCAPE

8. ASSET - The consistent and well-kept use of gravel ground cover along the west side of Paine Street is appropriate for an industrial area. Level of maintenance and uniformity of gravel color are positive factors.
9. ASSET - The front of Building 504 - PMEL has mature landscaping and has been cared for in the past. This identifies this building as a place for people and indicates a pride of place.
10. LIABILITY - Two different colors of gravel ground cover have been used around Building 600. This inconsistency creates visual clutter. A standard approach for a given character area or mini-campus would be more effective.
11. LIABILITY - The warehouse frontage along Paine Street becomes unsightly due primarily to its length. This area could be punctuated with trees in just two areas to make an improvement.

SITE ELEMENTS

12. ASSET - The horizontal setback located along the north side of Hamilton Ave. is an asset. This physical separation from the

roadway creates a more disciplined appearance for this area.

13. LIABILITY - Parking areas surrounding these two facilities are cramped and located too close to the "front door". Alternate parking areas must be found for these activity nodes.



Cramped Parking at Buildings 650 and 660

14. LIABILITY - This area to the south of the Arts and Crafts Building 640 has an unacceptable degree of visual disarray. This area is the natural focal point at the end of the street and desperately needs standardized colors, building materials, and more positive visual screening.
15. LIABILITY - Exterior storage areas for equipment and materials need to be screened when they are adjacent to main roads.
16. LIABILITY - Signage in this character area is scarce and inconsistently designed. Directional and facility identification signs are particularly important in this character area

3. OBJECTIVES

This character area will in the future see a gradual shift from a dual purpose area to more of a single purpose area. The direct flight line operations and maintenance activities will be phased out, and the entire area will be concentrated with warehouse and related industrial activities.

a. Concept Statement

The concept of “Unity in Diversity” could well be applied to this character area. There are currently two major opposing categories of buildings. Attempts should be made to visually unify these diverse parts through the following means:

- The predominantly warehouse northern segment should continue the visual association of beige monochrome buildings. Treating this area separately will reinforce the implied visual and physical “mini-campus” which has already been started.
- As the southern segment is gradually replaced (long term) with warehouses, and the flight line association is diminished, new and retrofitted buildings within this area should be shifted away from the dark bronze monochrome, and should take on more of the beige monochrome characteristics. For the short term, this southern area should remain dark bronze, to reinforce the visual and physical “mini-campus” which is already in place.
- Landscaping should be used much more extensively in this character area to help visually soften the large buildings and expanses of asphalt which are so common, and to identify pedestrian areas.
- Site design elements can similarly be used in a consistent manner to make this area more “friendly” to visitors and employees. Their use can also help visually break up the dark, rather foreboding nature of so many large buildings.

b. Landscape Objectives

- This character area should strive to use landscape materials to create a unified and interesting streetscape.
- Buffer the west end industrial area from views, and soften the street scene through plantings.
- The southern boundary should include street tree planting along Hamilton Avenue, while maintaining selective views to the mountains.

4. GUIDELINES

a. Introduction

The guidelines for the Industrial Character Area are divided into three distinct but interrelated disciplines: building, landscape and site elements design. Each set of guidelines has been developed to help implement the physical manifestation of ideas and concepts discussed in earlier parts of this EDG.

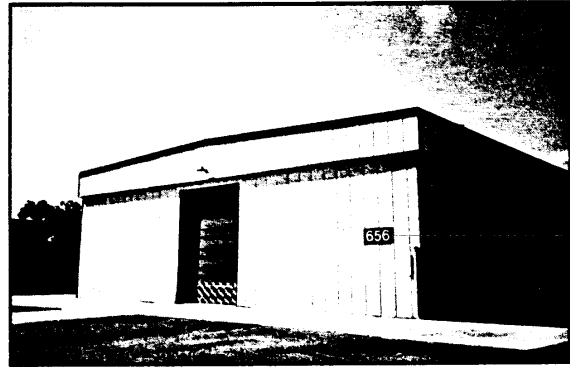
The building design guidelines are included here in Part Four of Section Two. The landscape and site elements guidelines may be found in the reference libraries in Section Three. Matrixes are included here to directly cross-reference those guidelines applicable to the Industrial Character Area.

Guideline Building INDUSTRIAL CHARACTER AREA

BD-4 Guidelines

The environmental design influences and principles, and general building design considerations of Section One should be combined with the general character, visual assets and liabilities, objectives, and overall concept presented previously in this Part Four to shape the building design process.

The building design guidelines will control visual elements such as form, material and color. Building function, building interiors, and overall layout of floor plans will not be addressed. This coverage of information is consciously directed to enhance positive visual qualities in building design while discouraging negative qualities.



Warehouse Fascia Detail

Design Character

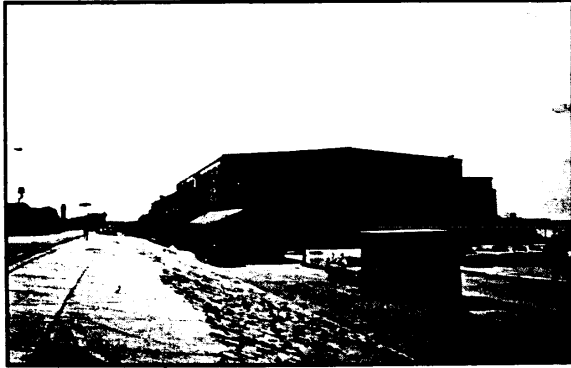
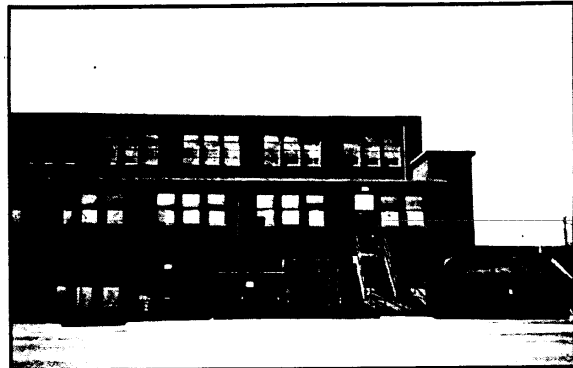
In general, this character area fulfills its function without developing any real distinction. There is however, a subtle, up-dated reference to the World War II era warehouse. Following are the design parameters which will serve to substantiate the character of this area.

Form, Shape, & Proportion

Roof Configuration

- The slightly sloping roof shall be continued as a dominant visual element throughout the area. The slope used shall not be less than $\frac{1}{4}$ " rise per 12" of run.
- The fascia which appears in existing warehouse buildings shall be repeated in the future to help define the roof plane and add interest to the entire building. Repetition of this design element helps to visually unify this character area.

- The built-up roofs on the existing warehouses shall be replaced with standing seam metal roofing as reroofing becomes necessary, with those closest to the West Gate Character Area being highest priority. Any new building of this type (similar to Buildings 650, 652, 654, 656, 660, 662, 664, 666, and others) shall employ the metal standing seam roof.
- The large hangars located along the flight line are extremely bulky and require the visual relief afforded by a variety of combined roof types. Careful attention should be paid to the visual balance between a sloped roof line which either adjoins or "protrudes" through a flat roof line. Where these buildings are visible from more people-oriented places, it is appropriate to use varied roof lines, such as the existing abutting shed roofs, to reduce the apparent size of the whole building.

*Hangar Varied Roof Lines**Elevation Change in Wall Plane*

- Metal edge treatments such as gutters and/or edge trims shall be typically employed such that none of the roof structural elements are exposed to view on the exterior elevation.

Exterior Elevations

- The generally flat elevations of the buildings in this area are indicative of the practicality of their use. Although it is fitting to leave this as is, for the most part, there must be some physical/visual indication of building entry. Covered and/or enclosed entry spaces shall be used to define the entries as well as to break up the monotony of the long elevations.
- A predominantly horizontal overall building silhouette shall be employed. The exterior elevation width/height ratio shall not be less than 3:1.
- All exterior elevations shall follow the orthogonal geometry, except at sloping roofs, where angular geometry may be used.
- Along the flight line, building elevations which are facing toward the areas where people are (Hamilton Avenue), shall be broken down in scale by using exterior wall plane changes, submasses or other similar design devices.

Plan Geometry

- The grid shall be used as a basic framework for overall building plan layout.
- All buildings shall use the orthogonal geometry throughout their plan at exterior walls affecting exterior elevations.

Size, Massing, & Scale

Building Height

- Building height shall be limited to a maximum of three (3) stories above grade, or a total height of forty-five feet (45'). Allowable heights may be further restricted by airfield runway airspace imaginary surfaces. Where differences arise in these two height limits, the restrictions imposed by the runway surfaces shall take precedence.

Massing

- Large buildings shall be broken into submasses to reduce the apparent size of the building and to add visual interest.
- Submasses should generally be sized and grouped in response to the functional activities contained within the building.

Scale

- Buildings in this area should not appear residential in scale. This category of building scale ranges in size from 200 to 5,000 square feet.
- The buildings in this area should generally be of commercial scale (5,001 to 25,000 square feet).
- The industrial scale buildings, those which have square footage of 25,001 or larger, should continue to be prominent along the flight line and in warehouse areas.
- Industrial scale buildings may be used elsewhere in the character area provided that design techniques are used to help diminish their apparent size.

Materials

- Metal - aluminum or steel siding shall be employed throughout the exterior elevations, with line patterns running vertically. Aluminum or steel shall be used for all window and door frame systems, doors, flashing systems, louvers, gutters, downspouts, and similar trim features. Window frame systems shall incorporate a thermal break feature throughout.
- Metal - standing seam metal roofing at all sloped roof applications.
- Brick masonry - 2 2/3" x 8" units at exposed face, standard running bond for all exterior elevations shall be the dominant brick pattern. Brick masonry shall be employed at the building base, for a minimum distance of ten feet (10') above grade on all new building elevations.
- Concrete masonry units (CMU) - standard smooth face CMU units may be used for loading dock structures only.

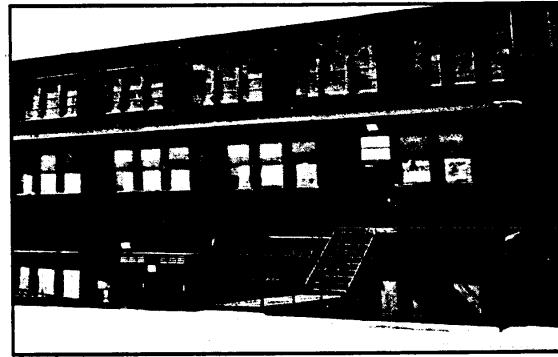
- Glass - 1" insulated at all window and door applications, tempered where required by code. Laminated safety glass at sloped applications, and 1/4" glass at spandrel panel (opaque) locations.
- Prohibited materials - the following materials shall not be exposed to view on building exteriors: wood, fiberboard sheathing, stucco, glass block, asphalt shingles, corrugated metal, metal lap siding, glass window walls or storefront systems.

Color Standards

The color palette for the Industrial Character Area is founded on the primary colors already established for this area. These existing two colors come from opposite ends of the earth-tone range, and will be brought together by the use of a more neutral mid-range color.

- Metal - beige siding in the beige monochrome warehouse area shall continue to be used, and shall match PPG #2496, Arabian Beige.
- Metal - at the dark bronze monochrome building group along the flight line, this basic color shall continue to be used, and shall match PPG #7611, Black Chocolate.
- Metal - all windows, doors and frames, louvers, gutters and downspouts, and miscellaneous trims shall be painted a medium bronze color to match PPG #4637, Briarwood. This shall apply to both the beige monochrome and dark bronze monochrome building groups.
- Brick masonry - shall match the Heritage Antique (RBC) previously used at Buildings 502 and 503.
- Concrete masonry units (CMU) - unpainted, matching that previously used at loading docks. Natural finish and color shall be exposed and covered with a clear sealer.

- Standard concrete - unpainted, warm natural grey color.
- Glass - all window and door glass shall be medium gray color of manufacturer's standard tint, visible light transmittance of 42% and shading coefficient of 0.64 for 1/4" thick glass. Insulating glass units: daylight transmittance - 40% maximum; daylight reflectance (outdoors) - 8% maximum; shading coefficient (no shade) - 0.60 maximum.
- Roofing materials - standing seam metal roofing shall be a medium bronze color to match PPG #4637, Briarwood.



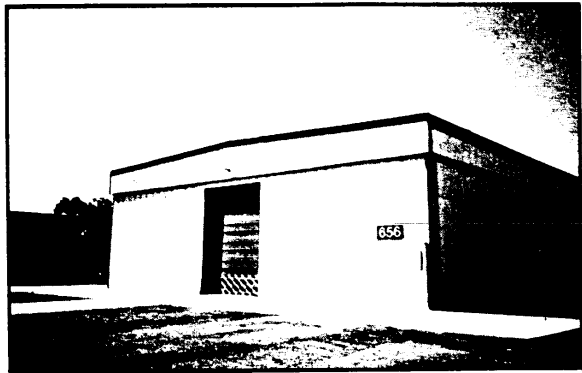
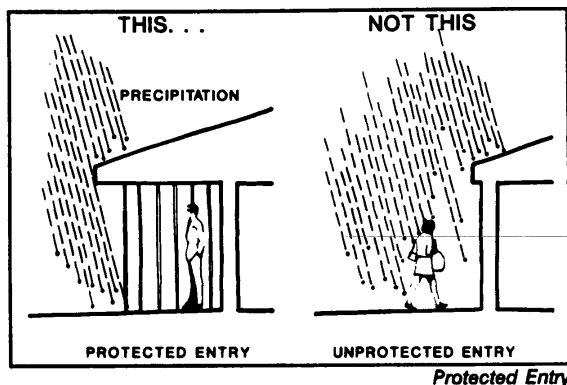
"Punched" Window Openings

Fenestration

- Careful consideration must be used in selection and placement of fenestration when energy efficiency is to be maximized. Windows on south facing walls shall be located below an overhang, where the minimum overhang depth shall be four feet (4').
- A minimum of one half (1/2) of the total window area used shall employ operable windows. All operable windows in this character area shall be double hung type, without divided lites.
- Attention should be paid to the placement of windows, striving for a symmetrical, rhythmic pattern.
- Windows shall be used in horizontally oriented punched opening groups to complement the horizontal visual emphasis required for the exterior elevations.

Detailing

- All detailing shall provide overall clean, crisp, and uncluttered lines which are expressed in like manner at all exterior elevation wall planes.
- The pseudo fascia provides a welcome repetitive detail throughout the warehouse area and should continue to be provided, especially in the form of an integrated roof design element.
- Protected entries offer a visual composition of different planes.
- Detailing of metal siding shall be expressed through the rhythmic application of metal panels and their face contours of vertical lines.

*Integrated Roof Element*

permitted on the exterior of any building. All signage attached to buildings shall conform to those types permitted in the comprehensive signage system. See the Site Elements Reference Library in Section Three.

- The following building types and storage facilities shall not be exposed to view in this character area: storage sheds, premanufactured (temporary) buildings, gazebos, miscellaneous utility structures, transformer buildings and CONEX boxes. These specifically mentioned, and others like them, shall be placed behind screen walls, typically in locations where such screen walls are an integral part of an adjacent building design. See the Site Elements Reference Library in Section Three.
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Site Elements Matrix

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Appendix B

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Appendix C

Excerpts from USAF Construction Technical Letter 90-1: Management of the MILCON Planning and Execution Process

The following appendix is included to supplement the discussion of the RAMP Construction process found in Section 2.15 of this document.



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS UNITED STATES AIR FORCE
WASHINGTON DC

06 MAR 1990

REPLY TO

ATTN OF: **LEED**

SUBJECT: **Construction Technical Letter (CTL) 90-1: Management of the MILCON Planning and Execution Process**

TO: **DISTRIBUTION LIST**

1. Purpose.

This CTL implements a new design process that has been developed with the goal of improving MILCON execution. The process involves an improved planning effort, a Congressional submittal requirement based on a parametric cost estimate and a new approach in developing the project requirements. This process emphasizes user involvement, project planning, and a continuous design effort from start to completion.

2. This CTL:

- a. Supports AFR 89-1, Design and Construction Management, and is authorized per AFR 8-20, Construction Technical Letters.
- b. Is effective immediately for projects in the FY 92 and subsequent MILCON Programs. For projects currently under design authorized by a previous Design Instruction (DI), there is no requirement to modify the ongoing design process. The traditional 35 percent design documents and cost estimate will continue to be adequate documentation for Congressional submittal and is still an approved design method. Under the new process, the Project Definition (PD) package and the Parametric Cost Estimate (PCE) are sufficient documentation for Congressional Submittal and fulfills the milestone that 35% design did under the old system. The revised program submission requirements have been approved by the Congressional Authorization and Appropriation Committees.
- c. Should be sent to all activities involved in design or review of Air Force MILCON projects.

3. General Guidance

- a. Although the programming portion of the delivery process is essentially the same as that of previous years, there are some changes in timing. One of these changes is the MAJCOM submittal requirements and the associated briefings start later (see Atch 2 for the New Programming Schedule Under the PI System and Atch 3 for FY 94 MILCON Process (P3DC Time Line). By starting designs later, a better use of MILCON design funds will be made by avoiding or not continuing designs of projects which drop out of the program prior to Congressional submittal and there is a greater chance of having the same design and customer team thru the design process.
- b. After a project scope has been validated by AF/LEEP and the project approved by the Air Staff Facilities Panel, a Planning Instruction (PI) will be issued through the PDC system. The PI authorizes the Air Force Design Manager (DM) to proceed (subject to 2807 notification requirements) to 100 percent design at the discretion of the Requiring MAJCOM. The coordination by the Requiring MAJCOM on design funds requests is mandatory.
- c. The requirement for a Project Book (PB) as defined by CTL 88-1 is rescinded. In place of the PB, a Requirements and Management Plan (RAMP) is required. Sample requirements and approvals associated with the RAMP is the subject of a separate CTL. However, a basic functional outline of the deliverables included in the RAMP are provided below. The major difference between a PB and a RAMP is that the PB was a stand alone document that focused on the facility requirements. The RAMP, on the other hand, provides the Design Agent (DA) and the designer project planning information to be utilized in negotiating the design contract and completing the PD phase of the project. Detailed technical and functional requirements for the proposed facility are not necessary in the RAMP since the designer will develop the technical and functional requirements during the Project Definition (PD) phase. Note: Sufficient scope, criteria, and functional requirements are required by the DA to concurrently negotiate for PD and final design.
- d. The RAMP will be prepared at base/MAJCOM level either by in-house personnel or with O&M contract support. O&M dollars will normally be used for RAMP activities, however, some tasks for the RAMP can be supported with MILCON design funds if they are accomplished through the DA. Examples include the DA in-house costs to participate in the Project Management Plan (PMP) development, the preparation of the design budget work sheet of project design costs, and the cost of a site investigation. The agents' involvement and approval of the contract acquisition strategy are essential in the initial PMP development. When to accomplish the PMP portion of the RAMP is a MAJCOM decision, but it must be accomplished by the completion of the PD phase.

If the DA participates in the PMP development, the DM must position design funds to cover their in-house personnel costs.

- e. A PMP is required for every project that is designed under the new process. The plan will include joint AF/Design Agent strategic decisions that include in-house versus Architect-Engineer (A-E) design, determination of project risk (see Atch 4), contract type, scheduling, project packaging, and small disadvantaged business participation decisions. The PMP should be a living document and changed/amended throughout the project life to reflect project decisions. The DM is responsible for development and implementation of the PMP. The project management team should consist of: the user's representative; the Base, Host, and Requiring MAJCOM engineering project officers; the DM and the DA project officers. The PMP should list the name and organization of all parties involved in project execution and be signed by the DH and DA.
- f. The DM will issue the Field DI upon authorization from the Requiring MAJCOM but not until the PI has been issued by Air Staff. The Field DI will indicate the scope of work and the Programmed Amount (PA). Portions of the RAMP that are needed for A-E contract negotiation are required by the DA within 30 days of the PI. The RAMP package should be completed prior to the A-E Notice to Proceed (NTP). After receipt of required portions of the RAMP from the Host MAJCOM, the DM will notify AF/LEEDM to position design funds for the PD phase with the DA. The DM will work with the DA to refine the project design funds budget and coordinate all design funds requirements with the Requiring MAJCOM.
- g. The PD and revised PCE will be developed by the designer. It is the responsibility of the Requiring MAJCOM to fund the PD package. MILCON design funds should be used for its preparation. For A-E designed projects, the DA will:
 - (1) prepare the government estimate of the design fee
 - (2) review the A-E fee proposal
 - (3) negotiate a fair and reasonable price for the scope of work
 - (4) issue a NTP to the A-E for the PD phase of work with a prenegotiated option to proceed to final design or for any of the A-E contracting options discussed later in this CTL.
- h. The PD package will: (see Atch 5 for a detailed Statement of Work)
 - (1) define the user's needs
 - (2) provide a link to the BCP or long range plan through the development of a Master Site Plan
 - (3) develop a design analysis package
 - (4) provide a revised PCE
 - (5) verify the construction contracting strategy
 - (6) provide a briefing to the user

- i. The revised PCE, developed during the PD phase and validated by the DA, is a cost estimate based on the project subsystems selected in the PD phase. Any available cost estimating system may be used, but the system must be sufficiently flexible to accommodate revisions required to cost options and make management decisions. A Tri-service PCE system is currently being developed and will be distributed in place of the current Automated AF Construction Pricing Guide which should be used until its replacement is developed. The purpose of the revised PCE is to ensure the government can construct the facility, as designed, within the Current Working Estimate (CWE).

4. The Requirements and Management Plan.

As a minimum, the RAMP should contain the following elements:

- a. The project DD Form 1391 with the project cost based on a PCE.
- b. Base standards and regulations for fire protection, safety, security, communications, systems operability and maintainability, energy conservation, and other base/site specific requirements.
- c. Base architectural guidelines.
- d. Identification of all known environmental issues.
- e. Site investigation and supporting utility requirements necessary to develop the initial PCE.
- f. The PMP including the necessary strategic decisions to decide the design strategy.
- g. A Base Long Range Plan or an Area Development Plan addressing comprehensive planning issues and showing land use, transportation routes and functions of surrounding facilities and how it supports the overall Base Comprehensive Plan (BCP).
- h. A project description including the user narrative describing any special requirements. This description should be a general functional statement, but should include any known special requirements such as TEMPEST shielding, vaulted areas, raised flooring, redundant power, sound attenuation, hardening, prewired work stations, sequence of facility turnover for multi -facility upgrades, temporary construction, etc.

5. The Project Definition Package.

The PD package will include the following specific information:

- a. Site plan showing all buildings in or proposed for the project area, access roads, parking, landscaping, pedestrian walkways, roads, and sidewalks.
- b. New utility layouts showing connection points, routes of electrical, gas, steam, water, communications, and other utilities as well as any off site utility upgrade requirements.
- c. Architectural floor plans showing the result of the designer's study of the user's processes and functional requirements.
- d. Facility elevations and birds-eye view architectural renderings showing the architectural style, massing, and compatibility with the established base urban design.
- e. Descriptive narrative for:
 - (1) foundation and structural system
 - (2) HVAC system
 - (3) Plumbing system
 - (4) Fire protection system
 - (5) Lighting and power systems
 - (6) Communication systems
 - (7) Life safety requirements
- f. Environmental issues narrative and permits required
- g. Narrative which addresses the project link to the Base Comprehensive Plan.
- h. An Operability and Maintainability Report prepared using Engineering Technical Letter (ETL) 88-4, Reliability and Maintainability Design Checklist, dated 24 Jun 1989, as a guide. The report shall specifically address operability and maintainability in the following areas:
 - (1) architectural elements and site work
 - (2) electrical and mechanical system selections
 - (3) roofing system selection
 - (4) water and wastewater systems
 - (5) corrosion prevention and control
- i. Unique design features (i.e. security, hardening, etc.) or considerations required for the project that will significantly influence the cost or construction schedule.
- j. A revised PCE and price validation.
- k. A recommendation on the contracting strategy including milestones and assumptions.

Appendix D

Sample Statement of Work for the Preparation of an Area Development Plan

STATEMENT OF WORK FOR PREPARATION OF AN AREA DEVELOPMENT PLAN FOR AN AIR FORCE BASE

1. The A-E shall provide a detailed Area Development Plan for the _____ area (_____ acres) of _____ AFB to include an evaluation of existing streetscapes, landscaping and hardscapes. In addition, the A-E shall depict and explain those various improvements required to turn this Area into a comparable civilian development.
2. Specific Products that are required under this contract are a narrative report with graphics, a framable size plan in full color (approximately 30" x 42"), and a smaller, stand alone plan, in color, folded, with information on the back (approximately 24" x 35").
3. The document shall be formatted as follows:
 - a. Executive Summary
 - b. Introduction
 - c. Key Issues
 - d. Existing Conditions
 - e. Goals and Objectives
 - f. Plan
 - g. Implementation
 1. O & M Projects
 2. MCP Projects
4. The purpose of this document is to provide detailed urban design guidelines for development of the Area, including landscaping, streetscape and hardscape. The plan shall include numerous sketches aimed at implementing the ideas presented.
5. Detailed plans, including a plant list and planting plan, shall be developed for the following areas (entrance, outdoor gathering area, walkway, and parking lot, etc. as appropriate) within the Area, at 1" = 30' scale. The plan shall indicate where to put landscape focal points and which areas should receive special landscape treatments. Details of the proposed streetscape design will be included, showing details of benches, lighting, pavers, plantings, and other vital streetscape items. The plan shall show a detailed sketch of the item being discussed and shall then show a specific application of the item. The document shall present a plan showing where these applications should be applied throughout the Area.

6. The document shall be specific when discussing projects proposed to implement the Area Development Plan, listing all O & M and MCP requirements concisely. A capital improvements list, by priority, shall be included. These projects should cover from the present condition to the "end product" depicted in the plan.
7. All applicable Base Comprehensive Planning (BCP) data generated under this effort will be integrated into the _____ BCP, to include changes on the M-3, M-I.I., L, D-1.1, I-1.1 Tabs.
8. The Area Development Plan shall be a separately bound, stand -alone document. This plan shall also be included within the _____ AFB BCP as an appendix. One color plan drawing (approximately 11" x 14") will be included in the document.

9. There will be two draft submittals, at 65% and 95% complete. The total performance period for completion of this study will be ____ days (as determined by the Contracting Agent).
10. Required number of copies and distribution as determined by Contracting Agent. All camera ready originals and working drawings will become the property of the Air Force.

